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CHICAGO UNDERGRADUATE DIVISION

A TEN-YEAR BUILDING SPACE ESTIMATE FOR DEVELOPMENT OF A GENERAL CAMPUS PLAN

A STUDY FOR PRELIMINARY PLANNING AND DISCUSSION WITHIN THE UNIVERSITY. BASED UPON A TENTATIVE ASSUMED EDUCATIONAL PROGRAM

NOT FOR PUBLIC RELEASE

URBANA, ILLINOIS
FEBRUARY 1960

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P R E F A C E

February 8, 1960

The following report on "A Ten-Year Building Space Estimate for Development of a General Campus Plan" is being sent to interested persons, chiefly within the University, for use in connection with physical plant planning for the Chicago Undergraduate Division's new campus. It should be emphasized that the document has been approved for this purpose alone.

Primary attention has been given to defining specifications for the facilities required to replace the two-year program currently in operation on the Navy Pier. The four-year plan is based upon an assumed educational program which has not yet been submitted for faculty and administrative approval. It is believed, however, that the curricula ultimately established will not differ widely from those assumed and can in any event be offered within the total space and land estimates determined by this study.

It should be noted that public release of the material in this study has not yet been authorized.

Gordon N. Ray

Gordon N. Ray
Vice President and Provost

August 14, 1959

Dr. Gordon N. Ray
Vice President and Provost

This report of a study for planning and discussion within the University is based upon a tentative assumed educational program. Its principal objective is to arrive at estimates of the numbers and kinds of personnel and facilities necessary to provide the assumed educational program for the predicted enrollments in 1963, 1965, and 1969 at the Chicago Undergraduate Division.

Although it is necessary to use specific courses and curricula to estimate space needs, it is not the purpose of this report to defend a detailed academic program. It is believed, however, that the total space and land estimates determined herein will be adequate to permit expanding the present two-year offerings into a reasonable and practical four-year program although the details of the curricula finally offered may differ substantially from those assumed here. Changes in the curricula from those assumed in this report obviously will necessitate a redistribution of space.

It is hoped that we may have the opportunity of making corrections, if errors are found, before widespread distribution is given to the report.

N. A. Parker, Chairman
University Building Program Committee

J. V. Edsall, Coordinator
University Planning

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ACKNOWLEDGMENT

The assistance of the Deans and Department Heads at the Chicago Undergraduate Division and of the following persons who were consulted at Urbana is gratefully acknowledged: Dr. R. W. Rogers, Head of the Department of English; Dr. C. M. Allen, Acting Dean of the College of Education; Dr. P. M. Van Arsdell, Head of the Department of Finance; Dr. H. E. Carter, Head of the Department of Chemistry; Dr. C. A. Knudson, Head of the Department of French; and Dr. E. F. Potthoff, Director of the Bureau of Institutional Research. Those consulted do not necessarily agree with all aspects of the report nor with the assumptions on which their work was begun. Acknowledgment is also expressed for the guidance of Director C. S. Havens and Dr. W. C. Huntington. Mr. H. J. Miszkowicz is commended for his excellent assistance in collecting and preparing the detailed information necessary to complete the report.

The references listed in Appendix C, "Sources of Information", were of material assistance in this study.

I. GENERAL COMMENTS

The objective of this report is to develop an Assumed Educational Program and sufficient information concerning the building space and land required to serve as the basis for architectural and engineering planning of the campus and its physical facilities, which may be required for the instructional program and its administrative organization for the projected enrollments through 1969.

The preparation of a plan for a new campus requires three distinct steps: first, the development of curricula and their administrative organization; second, the development of an estimate of the types and quantities of space required and their distribution throughout the organization; and third, the design of the campus and all its physical facilities.

A campus plan can never be said to be complete since the educational process is ever changing. Therefore, the best that can be expected is the establishment of a starting point and the adoption of a general development plan which is sufficiently flexible to allow for the changes which will be necessary in the future. This report establishes a starting point, assumes an educational program, and develops estimates of the space required and its distribution.

The report contains detailed predictions of the academic space needed by 1965 when the four-year Assumed Educational Program may first become effective and when the enrollment is projected to be 12,000. It also estimates the space required for other functions such as the Student Union, the Library, the General Administration, and Physical Plant Services.

The 1963 program is developed for 6,000 students presumed to be enrolled in the first two years of the Assumed Educational Program. The 1969 requirements are developed for an anticipated enrollment of 20,000 students in four-year curricula which will also include considerable graduate work and faculty research.

II. GENERAL ASSUMPTIONS

The study is based on the following general assumptions:

A. That the enrollments will be those predicted by the Bureau of Institutional Research.

B. That the building space requirements are determined by the educational program and are independent of any specific site.

C. That the student distribution between men and women will be that predicted by the Bureau of Institutional Research.

D. That teaching loads will be normal. (i.e., approximately the same as those at Urbana-Champaign in the past.)

E. That no staff appointments will be made solely for research, but facilities for faculty research will be provided.

F. That space estimates will not be modified materially by television or other teaching methods.

G. That no provisions will be made for evening courses in addition to the regular daytime program requirements.

H. That the graduate program in 1969 will include work at the master's degree level in several departments and probably at the PhD level in some departments. These 300-400 graduate students are included in the estimated 20,000 student enrollment for 1969.

I. That only a few beds will be provided for emergency use in the Health Center. First aid facilities but no hospital facilities will be provided.

J. That no general museum nor exhibit areas will be provided other than those which can be developed in corridors and lobbies.

K. That no stadium will be provided.

L. That auditorium facilities, with a total seating capacity of 1000 to 1200 will be provided, initially. In developing the campus plan, the ultimate construction of a concert auditorium will be anticipated.

M. That ratios of the assignable-to-gross* building areas will, in general, be 60 percent, except for the following:
   1. Physical Education facilities (70%).
   2. Armory-Auditorium (90%).
   3. Physical Plant facilities (80%).

N. That, in general, low rise buildings will be constructed (i.e., walk-up buildings not exceeding four stories and basement).

O. That no student housing will be provided in developing the campus plan for this commuting University.

P. That no staff housing will be provided in developing the campus plan.

Q. That parking facilities will be provided as follows:
   1. one space for four students
   2. one space for one and one third academic staff
   3. one space for two other staff

R. That a full intramural sports program will be developed.

S. That no special facilities will be constructed for handicapped students since full provisions are made for them at Urbana-Champaign.

T. That all library facilities will be located in the Library building.

U. That the placement service will be centralized. Colleges which may desire individual placement services must provide for them from the total college space allocation.

V. That lockers will be located in basements, corridors and other tare space.

W. That no additional space will be provided specifically for registration.

X. That provisions for research are planned
   1. by adding 20% to each undergraduate laboratory for research and auxiliary uses
   2. by distributing 150,000 sq. ft. of additional space as laboratory research space
   3. by providing for future expansion of research areas in the campus plan and building design.

* Net space such as classrooms, laboratories, offices, shops, gymnasiums, etc., but not including corridors, washrooms, stairwells, mechanical equipment areas etc.

III. THE ASSUMED EDUCATIONAL PROGRAM FOR PLANNING PURPOSES

It is believed that the curricula used for this study provide a realistic initial educational program from a planning standpoint.

Additions, deletions, and modifications, which inevitably will be necessary as planning becomes more firm, may be incorporated without destroying the usefulness of the original program as a frame of reference.

Plans call for relocation of the program presently being offered at Navy Pier augmented by some additional courses to provide for the first two years of the Assumed Educational Program (A.E.P.) by 1963. Third year work should be initiated in 1964 and the fourth year in the fall of 1965. All course titles included in the Assumed Educational Program are listed in Table 41 of Appendix K.

It is assumed that some graduate work will be desired in 1966 and that thereafter the quantity offered will increase. Provision is made for this by making limited space allowances to each laboratory for 1965. Experience during the next several years will indicate which departments require additional space for graduate programs after 1965. For planning purposes, a moderate amount of additional space is allocated for graduate programs in the period 1965-1969.

The academic organization is assumed to include six colleges, schools, or divisions as detailed below.

Liberal Arts and Sciences

Majors leading to bachelor degress, including teacher-training curricula, where feasible, are provided as follows:

1. Biology. The department is to offer the undergraduate courses required for concentration in Bacteriology, (or microbiology) Botany, Entomology, Physiology, and Zoology.
2. Chemistry.
3. Economics.
4. English. Courses in Rhetoric, Business English, Humanities, and Journalism are included here.
5. French.
6. Geography.
7. Geology.
8. German.
9. History.
10. Home Economics. Provision is made initially for a major in L.A.S. The professional Home Economics program will presumably develop later.
11. Mathematics.
12. Philosophy.
13. Psychology.
14. Political Science.
15. Sociology and Anthropology.
16. Spanish. A major in Spanish is proposed and service courses only in Italian and Portuguese.
17. Speech.
18. Russian.
19. Classics. Courses should be available in Classics, Greek and Latin. No degree programs are assumed initially.

20. Education. Course offerings are those required for teachers certification in all teacher-training curricula and a bachelor's degree program in Elementary Education.
21. Library Science. Provide service courses only.

The course offerings in the preceding 21 departments include those courses required in the curricula for students in pre-law, pre-medicine, pre-dentistry, pre-pharmacy, pre-nursing, and pre-veterinary medicine.

Commerce and Business Administration

Majors in all the fields of concentration are combined into four departments with degree granting curricula in:

22. Accountancy.
23. Finance.
24. Marketing.
25. Management. The courses in Business Law, Business Administration, and Business Education are included here.

Engineering

Five departments offering six degree-granting curricula are proposed as follows:

26. Chemical Engineering.
27. Civil Engineering. It is assumed that this department will administer all service courses in theoretical and applied mechanics except courses in vibrations and compressible fluid flow.
28. Electrical Engineering.
29. Mechanical Engineering. Degree programs in Mechanical and in Industrial Engineering. It is assumed that this department will administer the service courses in drawing and descriptive geometry and courses in vibrations and compressible fluid flow.
30. Physics. This department administers the degree program in Engineering Physics as well as Liberal Arts majors in Physics. Basic courses in Astronomy are placed here.

Creative Arts

Two departments offering degree-granting curricula are proposed:

31. Architecture.
32. Art and Music are combined in a single department offering degree programs in Art Education, Art History and Painting, and service courses in History of Music, Music Education, Chorus, Band, and Orchestra.

Physical Education

Three departments offering degree programs are proposed:

33. Physical Education for men. Degree programs will be provided in P.E.M. and Health Education.
34. Recreation.
35. Physical Education for women. Degree programs will be provided in P.E.W. and Dance.

Reserve Officers' Training Corps

36. Military Science is offered on a voluntary basis. Courses are provided to accommodate 25% of the freshman and sophomore men in basic training in 1965 and 8% of the junior and senior men in advanced training in 1965. The enrollments used for these computations are listed in reference A-11 of Appendix C. The enrollment for 1963 was obtained by projecting the C.U.D. curve of Fig. 36, Appendix A and calculating the number in Table 1-C.

IV. GENERAL PROCEDURE

Established procedures for developing space needs require distribution of data on the student registrations throughout courses offered by the University. Office, classroom, and laboratory space requirements and their locations depend upon departmental teaching and research loads. The teaching loads may be derived from student registrations in the departmental course offerings. The distribution of student registrations depends upon the courses offered and the distribution of student interest. Since only two-year programs have been offered at the Chicago Undergraduate Division, the required data for the proposed four-year programs were not directly available.

The following procedure, which uses data from many thousands of students over a ten-year period is sufficiently general and reliable to provide a dependable model. The following steps were necessary:

A. The Bureau of Institutional Research prepared a schedule of the student registrations which were generated in all courses taken by those students which were registered at Urbana-Champaign during the first semester of 1958-59 in the curricula of the Assumed Educational Program. These registrations were reduced to Full-Time Equivalent (FTE)* students in each department. They are listed in Table I, Appendix A. These Full-Time-Equivalent students, who were enrolled in the courses included in the Assumed Educational Program, provide a basis for the student distribution which served as a datum from which the projected departmental programs were developed.

B. The proposed courses and projected enrollments which were developed for the Assumed Educational Program were used in obtaining the total educational space needs by applying, with some modifications, the detailed procedures, which have been developed by Professor W. C. Huntington and the Space Planning Office.

C. Estimates of the space requirements of the Library, the Student Union, the General Administration, and the Physical Plant Department were derived with the assistance of several qualified consultants from both inside and outside the University. The estimates of building space and land for Physical Education were proposed by the College of Physical Education.

D. The projected first-semester enrollments for 1965 as distributed among the curricula of the Assumed Educational Program are developed in Appendix A, Table 1, Column 8. These enrollments are recorded in Column 2 of Table A. Projected enrollments for 1963 are developed in

* See Appendix L for definition.

Appendix A, Table 1-c and for 1969 in Table 1-b. The distributed enrollments for 1963 and 1969 are recorded in Columns 1 and 3 of Table A.

E. The projected staff requirements in full-time equivalents for 1963, 1965, and 1969 are developed in Tables 2 and 3 of Appendix A. These estimates are recorded in Table A, Columns 4, 5, 6, 7, and 8.

V. BUILDING SPACE ESTIMATES

The assumptions, standards and procedures employed to develop the estimates of building space and land for the educational program for 1963, 1965 and 1969 are included in Appendix B. All specific terms are defined in Appendix L.

The estimates of the total building space required are summarized by major administrative unit in Table B. The assignable space (net sq. ft.) indicated represents the facilities such as offices, classrooms, laboratories, and service areas required by each college and department.

The student Union is assumed to be constructed in two stages, the first in 1963, (general Campus Phase 1), and the second by 1969, (general Campus Phase III). This is line B-3 of Table B.

The Armory-Auditorium is assumed to be constructed in 1969. (See line B-4 of Table B).

Table C is a summary of the assignable space per FTE Student. It will be noted that the space per FTE Student generally decreases as the enrollment increases. This is due to four major factors:

1. In the initial stage it will be necessary to construct laboratories for instruction in specific fields. Because of small enrollments at this stage, they will not be utilized to their optimum capacity and will, therefore, provide for increased enrollments without constructing additional facilities.
2. College and departmental administrative space required for 1969 should be included in the initial stage of construction so that expansion of these activities, with enrollment increases, may take place in the initial location.
3. Space estimates for general University administration such as Admissions and Records, Dean of Students and the Chief Administrative Officer, are based on equipment and personnel required to service the student enrollment and campus activities. Because of the variations among individual department's operational procedures and retention of records, the space required cannot be directly related to the student enrollment.
4. Space required for Physical Plant activities is related to the amount of building space and the types of services to be performed. It is, therefore, only indirectly related to student enrollment.

The increase in academic space per FTE student as the enrollment increases between 1965 and 1969 in Engineering is due to the allowance of

space for research being a larger proportion of total space for this college than for the other colleges.

The gross area per FTE student in 1969 of 146.5 square feet is believed to be in agreement with the minimal values of most undergraduate colleges offering a broad educational program.

It may be interesting to note that an enrollment of 20,000 in 1969 requires about 77% of the total space for direct academic use and about 23% for Student Union, Physical Plant, Administration and the Armory-Auditorium.

TABLE A. SUMMARY OF ASSUMED EDUCATIONAL PROGRAM

	1.	2.	3.	4.	5.	6.	7.	8.
	FTE STUDENTS*			FTE TEACHERS*			ADMINISTRATION 1963-1965-1969	
	1963	1965	1969	1963	1965	1969	Admin. Staff	Clerical Staff
COLLEGE OF LIBERAL ARTS AND SCIENCES								
1. Biology	450	727	1,212	38	61	101	3	5
2. Chemistry	592	623	1,038	50	52	87	2	4
3. Economics	244	377	628	14	21	35	1	2
4. English	1,098	1,544	2,575	74	103	172	3	7
5. French	163	275	458	11	19	31	1	2
6. Geography	58	44	73	4	4	5	1	1
7. Geology	64	150	250	6	13	21	1	1
8. German	203	149	248	14	14	17	1	1
9. History	227	514	857	12	26	43	1	2
10. Home Economics	79	161	268	7	14	23	1	1
11. Mathematics	915	1,163	1,938	51	65	108	3	5
12. Philosophy	41	173	288	3	12	19	1	1
13. Psychology	110	402	670	6	20	34	1	2
14. Political Science	44	184	307	3	9	16	1	1
15. Sociology and Anthropology	116	183	305	6	9	16	1	1
16. Spanish	58	144	240	4	10	16	1	1
17. Speech	70	200	333	5	14	22	1	1
18. Russian	25	58	97	2	4	7	1	1
19. Classics	10	21	35	1	2	3	1	1
20. Education	23	380	633	2	26	42	1	2
21. Library Science	21	69	115	2	5	8	1	1
COLLEGE ADMIN.	---	---	---	---	---	---	4	6
TOTAL COLLEGE	4,611	7,541	12,568	315	503	826	32	49
COLLEGE OF COMMERCE & BUSINESS ADMIN.								
22. Accountancy	169	282	470	10	16	26	1	2
23. Finance	2	86	143	--	5	8	1	1
24. Marketing	14	114	190	1	7	11	1	1
25. Management	20	246	410	2	14	23	1	1
COLLEGE ADMIN.	---	---	---	---	---	---	2	4
TOTAL COLLEGE	205	728	1,213	13	42	68	6	9

* See Appendix L for definitions.

	1.	2.	3.	4.	5.	6.	7.	8.
	FTE STUDENTS*			FTE TEACHERS*			ADMINISTRATION 1963-1965-1969	
	1963	1965	1969	1963	1965	1969	Admin. Staff	Clerical Staff
COLLEGE OF ENGINEERING								
26. Chemical Engineering	1	29	48	0	3	4	1	1
27. Civil Engineering	86	415	692	8	35	58	2	3
28. Electrical Engineering	14	672	1,120	2	56	94	2	4
29. Mechanical Engineering	276	655	1,092	23	55	91	2	4
30. Physics	267	548	913	23	46	76	2	3
COLLEGE ADMIN.	---	---	---	--	--	--	3	5
TOTAL COLLEGE	644	2,319	3,865	56	195	323	12	20
COLLEGE OF CREATIVE ARTS								
31. Architecture	99	380	633	10	38	64	2	3
32. Art and Music	93	271	452	10	27	45	1	2
COLLEGE ADMIN.	---	---	---	--	--	--	2	4
TOTAL COLLEGE	192	651	1,085	20	65	109	5	9
COLLEGE OF PHYSICAL EDUCATION								
33. P. E. for Men	244	352	587	21	30	49	1	3
34. Recreation	29	63	105	3	5	9	1	1
35. P. E. for Women	58	200	333	5	17	28	1	2
COLLEGE ADMIN.	---	---	---	--	--	--	2	4
TOTAL COLLEGE	331	615	1,025	29	52	86	5	10
RESERVE OFFICERS TRAINING CORPS								
36. Military Science	17	146	244	2	10	16	1	1
TOTAL CORPS	17	146	244	2	10	16	1	1
TOTAL UNIVERSITY	6,000	12,000	20,000	435	867	1,428	61	98

* See Appendix L for definitions.

TABLE B - MASTER SUMMARY OF TOTAL BUILDING SPACE ESTIMATE
(NET SQUARE FEET)* (1963-1965-1969)

COLLEGE OR DEPARTMENT	Phase I 1963 6,000 Enrollment	Phase II 1965 12,000 Enrollment	Phase III 1969 20,000 Enrollment
A. Academic			
1. College of Liberal Arts & Sciences	157,147	220,949	382,926
2. College of Commerce	11,210	19,535	25,985
3. College of Engineering	64,820	176,921	325,966
4. College of Creative Arts	40,472	92,222	139,222
5. College of Physical Education**	81,858	139,508	188,808
6. R. O. T. C.	6,236	19,818	30,518
7. Library	78,200	130,250	304,250
8. Student-Faculty Lounges	5,000	9,000	15,000
TOTAL ACADEMIC	444,943	808,203	1,412,675
PERCENT OF TOTAL	65%	75%	77%
B. Service Departments			
1. General Administration	66,342	79,904	94,894
2. Physical Plant	79,950	93,050	144,650
3. Union	91,690	91,690	137,000
4. Armory-Auditorium	---	---	49,000
TOTAL SERVICE DEPTS.	237,982	264,644	425,544
C. TOTAL UNIVERSITY (NET SQ. FT.)	682,925	1,072,847	1,838,219

* Assignable Space - See Appendix L for definitions.

** Proposed by the College of Physical Education.

TABLE C - NET SQUARE FEET (NSF) PER FTE STUDENT COMPARISONS

	Phase I 1963-6,000 Enrollment			Phase II 1965-12,000 Enrollment			Phase III 1969-20,000 Enrollment			
	Net Sq.Ft.	FTE Studs.	NSF/FTE Student	Net Sq.Ft.	FTE Studs.	NSF/FTE Student	Net Sq.Ft.	FTE Studs.	NSF/FTE Student	% of Total NSF/FTE Stud.
A. COMPARISON OF ACADEMIC SPACE WITHIN AN INDIVIDUAL COLLEGE (N.S.F./FTE STUDENTS OF THE INDIVIDUAL COLLEGE)										
1. COLLEGE OF LIBERAL ARTS & SCIENCES	157,147	4,611	34.1	220,949	7,541	29.3	382,926	12,568	30.5	
2. COLLEGE OF COMMERCE	11,210	205	54.7	19,535	728	26.8	25,985	1,214	21.4	
3. COLLEGE OF ENGINEERING	64,820	644	100.7	176,921	2,319	76.3	325,966	3,865	84.3	
4. COLLEGE OF CREATIVE ARTS	40,472	192	210.8	92,222	651	141.7	139,222	1,085	128.3	
5. COLLEGE OF P. E.	81,858	331	247.3	139,508	615	226.8	188,808	1,025	184.2	
6. RESERVE OFFICERS TRAINING CORPS	6,236	17	366.8	19,818	146	135.7	30,518	243	125.6	
DIRECT ACADEMIC	(361,743)	6,000	(60.3)	(668,953)	12,000	(55.7)	(1,093,425)	20,000	(54.7)	
B. COMPARISON OF FACILITIES USED BY ALL STUDENTS (NSF/TOTAL STUDENT ENROLLMENT)										
1. DIRECT ACADEMIC	(361,743)	6,000	(60.3)	(668,953)	12,000	(55.7)	(1,093,425)	20,000	(54.7)	59.3%
2. SPECIAL ACADEMIC FACIL.										
a) Library	78,200	6,000	13.0	130,250	12,000	10.9	304,250	20,000	15.2	
b) Student-Faculty Lounge Special Academic	5,000	6,000	0.8	9,000	12,000	0.7	15,000	20,000	0.7	
Total	(83,200)	6,000	(13.9)	(139,250)	12,000	(11.6)	(319,250)	20,000	(15.9)	17.6%
TOTAL ACADEMIC	(444,943)		(74.2)	(808,203)		(67.3)	(1,412,675)		(70.6)	(76.9%)
3. SERVICE DEPARTMENTS										
a) General Admin.	66,342	6,000	11.1	79,904	12,000	6.7	94,894	20,000	4.7	
b) Physical Plant	79,950	6,000	13.3	93,050	12,000	7.8	144,650	20,000	7.2	
c) Union	91,690	6,000	15.3	91,690	12,000	7.6	137,000	20,000	6.9	
d) Armory-Auditorium	---	---	---	---	---	---	49,000	20,000	2.5	
TOTAL SERVICE	(237,982)	(6,000)	(39.7)	(264,644)	(12,000)	(22.1)	(425,544)	(20,000)	(21.3)	(23.1%)
C. TOTAL NET SQ.FT./FTE STUDENT	682,925	6,000	113.8	1,072,847	12,000	89.4	1,838,219	20,000	91.9	100.0%
D. TOTAL GROSS SQ.FT./FTE STUDENT	1,085,405	6,000	180.9	1,605,174	12,000	133.8	2,931,251	20,000	146.5	

TABLE D - NET SQUARE FEET (NSF) PER FTE STUDENT COMPARISONS

	Phase I 1963-6,000 Enrollment			Phase II 1965-12,000 Enrollment			Phase III 1969-20,000 Enrollment			
	Net Sq.Ft.	FTE Studs.	NSF/FTE Student	Net Sq.Ft.	FTE Studs.	NSF/FTE Student	Net Sq.Ft.	FTE Studs.	NSF/FTE Student	% of Total NSF/FTE Stud.
A. COMPARISON OF ACADEMIC SPACE WITHIN AN INDIVIDUAL COLLEGE (N.S.F./FTE STUDENTS OF THE INDIVIDUAL COLLEGE)										
1. COLLEGE OF LIBERAL ARTS & SCIENCES	157,147 ÷	4,611	= 34.1	220,949 ÷	7,541	= 29.3	382,926	12,568	30.5	
2. COLLEGE OF COMMERCE	11,210 ÷	205	= 54.7	19,535 ÷	728	= 26.8	25,985	1,214	21.4	
3. COLLEGE OF ENGINEERING	64,820 ÷	644	=100.7	176,921 ÷	2,319	= 76.3	325,966	3,865	84.3	
4. COLLEGE OF CREATIVE ARTS	40,472 ÷	192	=210.8	92,222 ÷	651	=141.7	139,222	1,085	128.3	
5. COLLEGE OF P. E.	81,858 ÷	331	=247.3	139,508 ÷	615	=226.8	188,808	1,025	184.2	
6. RESERVE OFFICERS TRAINING CORPS	6,236 ÷	17	=366.8	19,818 ÷	146	=135.7	30,518	243	125.6	
DIRECT ACADEMIC	(361,743)÷	6,000	(60.3)	(668,953)÷	12,000	(55.7)	(1,093,425)	20,000	(54.7)	
B. COMPARISON OF FACILITIES USED BY ALL STUDENTS (NSF/TOTAL STUDENT ENROLLMENT)										
1. DIRECT ACADEMIC	(361,743)÷	6,000	=(60.3)	(668,953)÷	12,000	(55.7)	(1,093,425)	20,000	(54.7)	59.3%
2. SPECIAL ACADEMIC FACIL.										
a) Library	78,200 ÷	6,000	= 13.0	130,250 ÷	12,000	= 10.9	304,250	20,000	15.2	
b) Student-Faculty Lounge Special Academic	5,000 ÷	6,000	= 0.8	9,000 ÷	12,000	= 0.7	15,000	20,000	0.7	
Total	(83,200)÷	6,000	=(13.9)	(139,250)÷	12,000	=(11.6)	(319,250)	20,000	(15.9)	17.6%
TOTAL ACADEMIC	(444,943)÷		(74.2)	(808,203)		(67.3)	(1,412,675)		(70.6)	(76.9%)
3. SERVICE DEPARTMENTS										
a) General Admin.	66,342 ÷	6,000	= 11.1	79,904 ÷	12,000	= 6.7	94,894	20,000	4.7	
b) Physical Plant	79,950 ÷	6,000	= 13.3	93,050 ÷	12,000	= 7.8	144,650	20,000	7.2	
c) Union	91,690 ÷	6,000	= 15.3	91,690 ÷	12,000	= 7.6	137,000	20,000	6.9	
d) Armory-Auditorium	---	---	---	---	---	---	49,000	20,000	2.5	
TOTAL SERVICE	(237,982)÷	(6,000)	(39.7)	(264,644)÷	(12,000)	(22.1)	(425,544)	(20,000)	(21.3)	(23.1%)
C. TOTAL NET SQ.FT./FTE STUDENT	682,925 ÷	6,000	=113.8	1,072,847 ÷	12,000	= 89.4	1,838,219	20,000	91.9	100.0%
D. TOTAL GROSS SQ.FT./FTE STUDENT	1,085,405 ÷	6,000	=180.9	1,605,174 ÷	12,000	=133.8	2,931,251	20,000	146.5	

APPENDIX - A

TEACHING LOADS AND STAFF PROJECTIONS

FOR THE ASSUMED EDUCATIONAL PROGRAM

APPENDIX A

TEACHING LOADS AND STAFF PROJECTIONS FOR THE ASSUMED EDUCATIONAL PROGRAM

The purpose of this section is to develop the educational program, the distribution of FTE Students among the curricula, and the projected staff and faculty required by the predicted enrollments for 1965, 1969 and 1963 in that order.

TABLE 1

The Assumed Educational Program is organized with departments:
1--21 in Liberal Arts and Sciences
22--25 in Commerce and Business Administration
26--30 in Engineering
31--32 in Creative Arts
33--35 in Physical Education
36 in ROTC

Column 1 shows the FTE student load generated in each department of the Assumed Educational Program by all curricula at Urbana-Champaign in the fall semester of 1958. It will be noted that the total undergraduate enrollment at Urbana-Champaign generated 14,893 FTE students in the 36 listed departments.

Column 2 records the FTE Students derived from information which the Bureau of Institutional Research provided. It lists the FTE Students in all courses generated by those majoring in the Assumed Educational Program at Urbana-Champaign during the fall semester of 1958. The difference between Column 1 and Column 2 for a given department is the number of FTE Students taught in that department who were majors in curricula not included in the Assumed Educational Program.

Column 3 gives the distribution of the 11,944 FTE Students registered in the Assumed Educational Program at Urbana-Champaign during the first semester of 1958 expressed as percentages. These percentages in Column 3 are plotted as point "X" on the accompanying graphs, numbered 1 through 36.

Column 4 records the "U" point ("U" refers to Urbana-Champaign, U-C trend) located on the charts in the following manner: (Refer to Figure 1)

The trend of FTE students expressed as a percentage of the all-University undergraduate FTE Students at Urbana-Champaign is established on each of the charts as a line derived from the plotted values for the period 1952 to 1958. This trend is projected through point "X" to the intersection of the 1965 date line. This intersection is labeled point "U". It means that the FTE Students in this department, expressed as a percentage of University Undergraduate FTE Students, would be the "U" value assuming the course utilization (popularity) would continue to increase or decrease in the same manner that it did during the period 1952 to 1958.

Column 5 records the "C" point located on the charts in a manner identical to the location of the "U" point except that it is derived from the enrollment trend for the Chicago Undergraduate Division (C.U.D.) during the same period.

The trends used in Columns 4 and 5 were based on the period 1952-1958 rather than the whole history available. Thus the unusual effects due to the post-war bulge and veteran enrollment were eliminated.

Column 6 is the average of Columns 4 and 5. This value is plotted on the charts as point "Y".

In general the similarity of the curves between 1952-1958 for Chicago Undergraduate Division (dotted lines on charts) and for Urbana-Champaign (solid lines) builds confidence in the assumption that the student distribution in undergraduate courses will be about the same in a four year program at the Chicago Undergraduate Division and at the Urbana-Champaign campus. This justifies locating point "Y" as the average between "C" and "U".

Moreover the similarity of curves for all curricula at Urbana-Champaign and those for the Assumed Educational Program justifies the assumption that students in the Assumed Educational Program will select about the same courses in about the same percentages as students in all curricula at Urbana-Champaign.

Column 7, the first estimate of Full-Time Equivalent Students for 1965, is obtained by multiplying the anticipated enrollment of 12,000 by the percentages recorded in Column 6. It will be noted that the total of Column 7 exceeds 12,000.

Column 8 records the FTE Student distribution for 1965 corrected to a total of 12,000.

Column 9 lists the Course Projection Factor, which is obtained by dividing the predicted FTE students for 1965, from Column 8, by the FTE Students in the same educational program in 1958, from Column 2. The overall ratio from 11,944 to 12,000 in this educational model is 1.005. Any department, whose Course Projection Factor is about 1.00 will have the same proportionate growth as measured by the teaching load as the University as a whole. A department having a Course Projection Factor less than 1.00 is increasing less rapidly than the University as a whole and a department with a factor larger than 1.00 is increasing more rapidly than the University as a whole.

TABLES 1-a and 1-b

Distribution of the FTE Students in the Assumed Educational Program to the four classes are recorded in Table 1-a for 1965, and in Table 1-b for 1969.

TABLE 1-c

The course projection factors for the first two years for the Assumed Educational Program for 1963 are developed in Table 1-c.

Column 1 lists the FTE Students in all curricula at C.U.D. in the fall of 1958. It will be noted that certain courses included in the Assumed Educational Program were not offered at the C.U.D. in the fall of 1958. These were Home Economics, Russian, Classics, Library Science, Finance, Chemical Engineering and Recreation.

Column 2 contains the percentage estimates of FTE Students at C.U.D. in 1963. These values were read from the charts by extending the C.U.D. trends to 1963. For the seven courses not offered in 1958 at C.U.D. values were obtained by taking the 1963 proportion of FTE Students of the projected 1965 Freshman and Sophomore FTE Students.

Column 3 records the percentage FTE Student distribution for 1963 corrected to a total of 100 per cent.

Column 4 records the distribution of the 6,000 FTE Students projected for 1963 obtained by multiplying 6,000 by the percentages in Column 3.

Column 5 lists the Course Projection Factors for 1958-1963.

TABLE 2

The analysis and development of FTE Student-FTE staff ratios for planning purposes is summarized in Table 2.

Columns 1 and 2 are self-explanatory.

Column 3 records values used by Professor Huntington in a study for the University of Colorado.

Column 4 records a subjective evaluation which, generally, is on the high side and is therefore not conservative with respect to office space requirements.

Column 5 records the judgment of the Space Planning Office.

Column 6 takes into account the fact that FTE Student-FTE staff ratios should, in general, be lower in departments having a high percentage of laboratory instruction.

The following relations derived from a study of laboratory instruction teaching loads are used:

% Lab Instruction	FTE Student-FTE Staff Ratio
0	20
10	19
20	18
30	17
40	16
50	15
60	14
70	13
80	12
90	11
100	10

Column 7 lists the assumed standard ratios for planning which were determined by inspection of Columns 4, 5, and 6. The values in Column 7 may be converted to Instructional Units by multiplying by 15.

Inspection of the bottom line of Sheet 2 of Table 2 discloses that the proposed over-all average planning ratio of 14.8 is somewhat lower than that

at Urbana (15.5) and considerably lower than that of Chicago Undergraduate Division in 1956 (17.0). This seems reasonable for a 4-year program at Chicago Undergraduate Division as compared to a 2-year program in 1956.

The main effect of assuming the ratios in Column 7 on the low side will be to plan additional offices. Experience indicates that there will probably never be a surplus of office space. Therefore, lower rather than higher values in Column 7 will be the more conservative assumptions.

When the numbers of Column 7 are used as standards in computing the staff required in 1963, 1965, and 1969, the actual FTE Student-FTE Staff ratios for the 6,000, 12,000, and 20,000 enrollments are 13.8, 13.4, and 14.0 respectively. These values are developed in Table 3.

TABLE 3

The estimated FTE Students distributed for 1963, 1965 and 1969 enrollments are summarized in Table 3. The FTE staff required for each department at each date (Cols. 3, 5 and 7) are calculated by dividing the FTE students of Cols. 2, 4 and 6 by the FTE Student-FTE Staff ratios of Column 1 which were developed in Column 7 of Table 2.

TABLE 1. DEVELOPMENT OF COURSE PROJECTION FACTORS FOR ASSUMED EDUCATIONAL PROGRAM (A.E.P.) for 1965

	1. F.T.E. Students In All Curricula at U-C Fall Semester 1958	2. F.T.E. Students In A.E.P. Curricula At U-C Fall Semester 1958	3. Per Cent of F.T.E. Students In A.E.P. Curricula At U-C "X" 1958	4. Per Cent of F.T.E. Students Fall '65 From Trend At U-C "U" 1952-58	5. Per Cent of F.T.E. Students Fall '65 From Trend At CUD "C" 1952-58	6. Per Cent of F.T.E. Students Fall '65 Ave. of Col. 4 + 5 "Y"	7. First Estimate of FTE Students Col. 6 x 12,000	8. Second Estimate FTE Students Modified & Corr. 1965	9. Course Projection Factor Col. 8 ÷ Col. 2 From 1958 To 1965
COLLEGE OF LIBERAL ARTS AND SCIENCES									
1. Biology	754	716	5.99	5.61	7.00	6.31	757	727	1.02
2. Chemistry	746	601	5.03	5.03	5.73	5.41	649	623	1.04
3. Economics	520	439	3.68	3.12	3.42	3.27	392	377	.86
4. English	1,893	1,513	12.68	13.30	13.50	13.40	1,608	1,544	1.02
5. French	293	275	2.30	2.52	2.28	2.38	286	275	1.00
6. Geography	162	126	1.05	0.65	0.10	0.38	46	44	0.35
7. Geology	160	160	1.34	1.30	1.30	1.30	156	150	0.94
8. German	210	196	1.64	1.80	0.78	1.29	155	149	0.76
9. History	458	427	3.57	4.46	4.46	4.46	535	514	1.20
10. Home Ec.	212	195	1.63	1.40	--	1.40	168	161	0.83
11. Mathematics	1,278	989	8.28	10.16	10.03	10.09	1,211	1,163	1.18
12. Philosophy	198	175	1.46	1.50	1.50	1.50	180	173	0.99
13. Psychology	449	389	3.25	3.90	3.05	3.48	418	402	1.03
14. Polit. Sc.	260	196	1.64	1.75	1.45	1.60	192	184	0.94
15. Socio.&Anthro.	310	264	2.21	1.78	1.40	1.59	191	183	0.69
16. Spanish	253	228	1.91	1.25	1.25	1.25	150	144	0.63
17. Speech	350	267	2.23	2.30	1.15	1.73	208	200	0.75
18. Russian	40	33	0.28	0.50	--	0.50	60	58	1.76
19. Classics	27	21	0.18	0.18	--	0.18	22	21	1.00
20. Education	545	382	3.20	3.35	3.25	3.30	396	380	0.99
21. Library Sc.	45	39	0.33	0.60	--	0.60	72	69	1.77
TOTAL COLLEGE	9,163	7,631	63.88			65.42	7,852	7,541	0.99
COLLEGE OF COMMERCE AND BUSINESS ADMIN.									
22. Accountancy	381	350	2.93	2.25	2.65	2.45	294	282	0.81
23. Finance	150	138	1.16	See Econ.		0.75	90	86	0.62
24. Marketing	165	132	1.11	0.82	1.15	0.99	119	114	0.86
25. Management	262	230	1.93	2.30	1.95	2.13	256	246	1.07
TOTAL COLLEGE	958	850	7.13			6.32	759	728	0.86

	1. F.T.E. Students In all Curricula At U-C Fall Semester 1958	2. F.T.E. Students In A.E.P. Curricula At U-C Fall Semester 1958	3. Per Cent of F.T.E. Students In A.E.P. Curricula At U-C "X" 1958	4. Per Cent of F.T.E. Students Fall '65 From Trend At U-C "U" 1952-58	5. Per Cent of F.T.E. Students Fall '65 From Trend At CUD "C" 1952-58	6. Per Cent of F.T.E. Students Fall '65 Ave. of Col. 4 + 5 "Y"	7. First Estimate of FTE Students Col. 6 x 12,000	8. Second Estimate FTE Students Modified & Corr. 1965	9. Course Projection Factor Col. 8 - Col. 2 From 1958 To 1965
COLLEGE OF ENGINEERING									
26. Chemical Eng.	37	36	0.30	0.25	--	0.25	30	29	0.81
27. Civil Eng.	549	415	3.47	3.60	3.60	3.60	432	415	1.00
28. Electrical Eng.	594	558	4.67	6.90	4.75	5.83	700	672	1.20
29. Mechanical Eng.	846	646	5.41	6.25	5.10	5.68	682	655	1.01
30. Physics	524	455	3.81	4.80	4.70	4.75	570	548	1.20
TOTAL COLLEGE	2,550	2,110	17.66			19.11	2,414	2,319	1.10
COLLEGE OF CREATIVE ARTS									
31. Architecture	359	338	2.83	3.00	3.60	3.30	396	380	1.12
32. Art and Music	712	267	2.24	2.35	2.35	2.35	282	271	1.01
TOTAL COLLEGE	1,071	605	5.07			5.65	678	651	1.08
COLLEGE OF PHYSICAL EDUCATION									
33. P.E. for Men	420	346	2.90	3.05	3.05	3.05	366	352	1.02
34. Recreation	86	50	0.42	See P. E. Men		0.55	66	63	1.26
35. P.E. for Women	241	206	1.72	2.00	1.45	1.73	208	200	0.97
TOTAL COLLEGE	747	602	5.04			5.33	640	615	1.02
RESERVE OFFICERS TRAINING CORPS									
36. Military Sc.	404	146	1.22	--	--	1.22	146	146	1.00
TOTAL CORPS	404	146	1.22			1.22	146	146	1.00
TOTAL UNIVERSITY	14,893	11,944	100.00			103.05	12,489	12,000	1.005

TABLE 1a. DISTRIBUTION OF FULL TIME EQUIVALENT STUDENTS
IN THE ASSUMED EDUCATIONAL PROGRAM BY CLASS FOR 1965

	Freshmen-Sophomore F.T.E.	Juniors F.T.E.	Seniors F.T.E.	TOTAL
COLLEGE OF LIBERAL ARTS & SCIENCES				
1. Biology	524	131	72	727
2. Chemistry	468	88	67	623
3. Economics	200	97	80	377
4. English	1,133	258	153	1,544
5. French	198	54	23	275
6. Geography	26	11	7	44
7. Geology	86	41	23	150
8. German	97	36	16	149
9. History	304	115	95	514
10. Home Economics	83	46	32	161
11. Mathematics	843	189	131	1,163
12. Philosophy	52	65	56	173
13. Psychology	184	130	88	402
14. Political Science	59	78	47	184
15. Sociology & Anthropology	101	47	35	183
16. Spanish	110	26	8	144
17. Speech	133	45	22	200
18. Russian	26	21	11	58
19. Classics	11	5	5	21
20. Education	71	120	189	380
21. Library Science	23	34	12	69
TOTAL COLLEGE	4,732	1,637	1,172	7,541
COLLEGE OF COMMERCE & BUSINESS ADMIN.				
22. Accountancy	154	72	56	282
23. Finance	2	45	39	86
24. Marketing	7	50	57	114
25. Management	21	117	108	246
TOTAL COLLEGE	184	284	260	728

	Freshman-Sophomore F.T.E.	Juniors F.T.E.	Seniors F.T.E.	TOTAL
COLLEGE OF ENGINEERING				
26. Chemical Engineering	1	7	21	29
27. Civil Engineering	73	189	153	415
28. Electrical Engineering	12	187	473	672
29. Mechanical Engineering	227	149	279	655
30. Physics	280	185	83	548
TOTAL COLLEGE	593	717	1,009	2,319
COLLEGE OF CREATIVE ARTS				
31. Architecture	75	100	205	380
32. Art and Music	127	91	53	271
TOTAL COLLEGE	202	191	258	651
COLLEGE OF PHYSICAL EDUCATION				
33. P. E. for Men	275	47	30	352
34. Recreation	32	21	10	63
35. P. E. for Women	154	30	16	200
TOTAL COLLEGE	461	98	56	615
RESERVE OFFICERS TRAINING CORPS				
36. Military Science	81	37	28	146
TOTAL CORPS	81	37	28	146
TOTAL UNIVERSITY	6,253	2,964	2,783	12,000

TABLE 1b. DISTRIBUTION OF FULL TIME EQUIVALENT STUDENTS IN THE ASSUMED EDUCATIONAL PROGRAM BY CLASS FOR 1969*

	Freshmen-Sophomore F.T.E.	Juniors F.T.E.	Seniors F.T.E.	TOTAL
COLLEGE OF LIBERAL ARTS & SCIENCES				
1. Biology	873	218	121	1,212
2. Chemistry	780	147	111	1,038
3. Economics	333	162	133	628
4. English	1,888	430	257	2,575
5. French	330	90	38	458
6. Geography	43	18	12	73
7. Geology	144	68	38	250
8. German	162	60	26	248
9. History	507	192	158	857
10. Home Economics	138	77	53	268
11. Mathematics	1,405	315	218	1,938
12. Philosophy	87	108	93	288
13. Psychology	307	217	146	670
14. Political Science	98	130	79	307
15. Sociology & Anthropology	168	78	59	305
16. Spanish	183	43	14	240
17. Speech	222	75	36	333
18. Russian	14	35	18	97
19. Classics	19	8	8	35
20. Education	118	200	315	633
21. Library Science	38	57	20	115
TOTAL COLLEGE	7,887	2,728	1,953	12,568
COLLEGE OF COMMERCE & BUSINESS ADMIN.				
22. Accountancy	257	120	93	470
23. Finance	3	75	65	143
24. Marketing	12	83	95	190
25. Management	35	195	180	410
TOTAL COLLEGE	307	473	433	1,213

	Freshman-Sophomore F.T.E.	Juniors F.T.E.	Seniors F.T.E.	TOTAL
COLLEGE OF ENGINEERING				
26. Chemical Engineering	1	12	35	48
27. Civil Engineering	122	315	255	692
28. Electrical Engineering	20	312	788	1,120
29. Mechanical Engineering	378	248	466	1,092
30. Physics	467	308	138	913
TOTAL COLLEGE	988	1,195	1,682	3,865
COLLEGE OF CREATIVE ARTS				
31. Architecture	125	167	341	633
32. Art and Music	212	151	89	452
TOTAL COLLEGE	337	318	430	1,085
COLLEGE OF PHYSICAL EDUCATION				
33. P. E. for Men	458	79	50	587
34. Recreation	53	35	17	105
35. P. E. for Women	257	50	26	333
TOTAL COLLEGE	768	164	93	1,025
RESERVE OFFICERS TRAINING CORPS				
36. Military Science	135	62	47	244
TOTAL CORPS	135	62	47	244
TOTAL UNIVERSITY	10,422	4,940	4,638	20,000

* 20,000/12,000 x 1965 distributed FTE Students.

TABLE 1c. DEVELOPMENT OF COURSE PROJECTION FACTORS FOR THE FIRST TWO YEARS OF THE ASSUMED EDUCATIONAL PROGRAM (AEP) FOR 1963

	1. FTE Students In All Curricula At C.U.D. Fall Semester 1958	2. 1st Estimate % F.T.E. Students At C.U.D. 1963	3. 2nd Estimate % F.T.E. Students At C.U.D. 1963	4. F.T.E. Students At C.U.D. (Col.3 x 6000) 1963	5. Course Projection Factor (Col. 4 ÷ Col. 1)
COLLEGE OF LIBERAL ARTS AND SCIENCES					
1. Biology	288	7.75	7.50	450	1.56
2. Chemistry	401	10.20	9.87	592	1.48
3. Economics	163	4.20	4.07	244	1.50
4. English	727	18.90	18.30	1,098	1.51
5. French	116	2.80	2.71	163	1.41
6. Geography	50	1.00	0.97	58	1.16
7. Geology	56	1.10	1.07	64	1.14
8. German	153	3.50	3.38	203	1.33
9. History	134	3.90	3.78	227	1.69
10. Home Economics	--	1.35	1.31	79	--
11. Mathematics	561	15.75	15.25	915	1.63
12. Philosophy	26	0.70	0.68	41	1.58
13. Psychology	82	1.90	1.84	110	1.34
14. Political Science	41	0.75	0.73	44	1.07
15. Sociology & Anthropology	100	2.00	1.94	116	1.16
16. Spanish	62	1.00	0.97	58	0.93
17. Speech	68	1.20	1.16	70	1.02
18. Russian	--	0.42	0.41	25	--
19. Classics	--	0.18	0.17	10	--
20. Education	12	0.40	0.39	23	1.91
21. Library Science	--	0.36	0.35	21	--
TOTAL COLLEGE	(3,040)	(79.36)	(76.85)	(4,611)	1.52
COLLEGE OF COMMERCE & BUSINESS ADMIN.					
22. Accountancy	120	2.90	2.81	169	1.41
23. Finance	--	--	--	2	--
24. Marketing	7	0.25	0.24	14	2.00
25. Management	11	0.35	0.34	20	1.81
TOTAL COLLEGE	(138)	(3.50)	(3.39)	(205)	1.49

	1. FTE Students In All Curricula At C.U.D. Fall Semester 1958	2. 1st Estimate % F.T.E. Students At C.U.D. 1963	3. 2nd Estimate % F.T.E. Students At C.U.D. 1963	4. F.T.E. Students At C.U.D. (Col.3 x 6000) 1963	5. Course Projection Factor (Col. 4 - Col. 1) 1958 to 1963
COLLEGE OF ENGINEERING					
26. Chemical Engineering	--	--	--	1	--
27. Civil Engineering	59	1.50	1.45	86	1.46
28. Electrical Engineering	9	0.25	0.24	14	1.56
29. Mechanical Engineering	190	4.75	4.60	276	1.45
30. Physics	148	4.60	4.45	267	1.80
TOTAL COLLEGE	(406)	(11.10)	(10.74)	(644)	1.59
COLLEGE OF CREATIVE ARTS					
31. Architecture	63	1.70	1.65	99	1.57
32. Art and Music	62	1.60	1.55	93	1.50
TOTAL COLLEGE	(125)	(3.30)	(3.20)	(192)	1.54
COLLEGE OF PHYSICAL EDUCATION					
33. P. E. for Men	176	4.20	4.07	244	1.39
34. Recreation	--	0.51	0.49	29	--
35. P. E. for Women	48	1.00	0.97	58	1.21
TOTAL COLLEGE	(224)	(5.71)	(5.53)	(331)	1.48
RESERVE OFFICERS TRAINING CORPS					
36. Military Science	13	0.30	0.29	17	1.31
TOTAL CORPS	(13)	(0.30)	(0.29)	(17)	1.31
37. Hygiene	26	--	--	--	--
TOTAL UNIVERSITY	3,972	103.27	100.00	6,000	1.51

TABLE 2. DEVELOPMENT OF PLANNING STANDARD TEACHING LOADS

	1.	2.	3.	4.	5.	6.	7.
	F.T.E. Students per F.T.E. Teacher for Undergraduate Level Courses						
	U-C Fall '56 Actual Undergrd. Courses	CUD Fall '56 Actual Fr.-So. Courses	Colorado Report	CUD Fall '65 Proposal #1 (High)	CUD Fall '65 Proposal #2 (Plan.Off.)	CUD Fall '65 Proposal #3 (Lab.Ratio)	CUD Fall '65 USE FOR PLANNING
COLLEGE OF LIBERAL ARTS AND SCIENCES							
1. Biology (Ave.)	9.9	18.7	--	13	12	12.0	12
a. Bacteriology	(5.3)	(--)	--	--	--	--	--
b. Botany	(12.7)	(18.7)	--	--	--	--	--
c. Zoology	(11.9)	(18.7)	--	--	--	--	--
d. Physiology	(9.7)	(18.7)	--	--	--	--	--
3. Entomology	(--)	(--)	--	--	--	--	--
2. Chemistry	13.5	15.0	--	13	15	13.7	12
3. Economics	18.7	18.0	--	21	20	19.7	18
4. English	12.6	18.8	20.7	18	15	20.0	15
5. French	15.3	18.8	--	18	15	20.0	15
6. Geography	17.2	22.4	--	20	18	18.5	15
7. Geology	11.8	18.4	--	18	15	13.5	12
8. German	16.8	18.8	--	18	15	20.0	15
9. History	21.0	22.4	--	21	20	20.0	20
10. Home Economics	9.0	--	--	15	12	13.0	12
11. Mathematics	21.6	22.8	22.4	21	15	20.0	18
12. Philosophy	16.8	22.4	--	18	15	20.0	15
13. Psychology	28.8	22.4	--	24	20	18.5	20
14. Political Science	25.9	22.4	--	24	20	20.0	20
15. Sociology & Anthro.	20.5	22.4	--	21	20	19.7	20
16. Spanish	15.1	18.8	--	18	15	20.0	15
17. Speech	14.1	18.8	--	18	20	19.0	15
18. Russian	9.7	--	--	18	15	20.0	15
19. Classics	9.1	18.8	--	18	15	20.0	15
20. Education	15.8	8.3	--	18	20	18.0	15
21. Library Science	--	--	--	15	20	20.0	15
COLLEGE AVERAGE	16.2	19.4		18.5	16.8	18.4	15.7

F.T.E. Students per F.T.E. Teacher for Undergraduate Level Courses

	1. U-C Fall '56 Actual Undergrd. Courses	2. CUD Fall '56 Actual Fr.-So. Courses	3. Colorado Report	4. CUD Fall '65 Proposal #1 (High)	5. CUD Fall '65 Proposal #2 (Plan.Off.)	6. CUD Fall '65 Proposal #3 (Lab.Ratio)	7. CUD Fall '65 USE FOR PLANNING
COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION							
22. Accountancy	19.2	18.0	--	21	20	20.0	18
23. Finance	--	--	--	21	20	20.0	18
24. Marketing	19.1	18.0	--	21	20	20.0	18
25. Management	22.5	18.0	--	21	20	19.3	18
COLLEGE AVERAGE	20.3	18.0		21	20	19.8	18
COLLEGE OF ENGINEERING							
26. Chemical Eng.	--	--	11.6	15	12	14.0	12
27. Civil Eng.	12.7	14.5	12.5	13	12	15.3	12
28. Elect. Eng.	12.1	14.5	12.5	13	12	16.0	12
29. Mech. Eng.	12.7	14.5	12.5	13	12	15.0	12
30. Physics	12.3	11.6	--	13	15	15.0	12
COLLEGE AVERAGE	12.5	13.8		13.4	12.6	15.1	12
COLLEGE OF CREATIVE ARTS							
31. Architecture	10.7	8.5	10.0	13	12	11.5	10
32. Art & Music	10.8	8.5	--	13	15	15.3	10
COLLEGE AVERAGE	10.8	8.5		13	13.5	13.4	10
COLLEGE OF PHYSICAL EDUCATION							
33. P. E. for Men	13.3	12.3	--	15	15	11.0	12
34. Recreation	13.3	12.3	--	15	15	11.0	12
35. P. E. for Women	15.1	12.2	--	15	15	11.0	12
COLLEGE AVERAGE	13.9	12.3		15	15	11	12
RESERVE OFFICERS TRAINING CORPS							
36. Military Science	--	--	--	15	15	17.0	15
CORPS AVERAGE	--	--	--	15	15	17.0	15
UNIVERSITY AVERAGE	15.5	17.0		17.4	16.2	17.1	14.8

TABLE 3. ESTIMATED FTE TEACHING STAFF FOR 1963, 1965 & 1969

	1. F.T.E. Student F.T.E. Staff Ratio	2. 1963 6,000 Enroll-2 yr. Prog. F.T.E. Students	3. 1963 6,000 Enroll-2 yr. Prog. F.T.E. Staff Required	4. 1965 12,000 Enroll-4 yr. Prog. F.T.E. Student	5. 1965 12,000 Enroll-4 yr. Prog. F.T.E. Staff Required	6. 1969 20,000 Enroll-4 yr. Prog. F.T.E. Students	7. 1969 20,000 Enroll-4 yr. Prog. F.T.E. Staff Required
COLLEGE OF LIBERAL ARTS AND SCIENCES							
1. Biology	12	450	38	727	61	1,212	101
2. Chemistry	12	592	50	623	52	1,038	87
3. Economics	18	244	14	377	21	628	35
4. English	15	1,098	74	1,544	103	2,575	172
5. French	15	163	11	275	19	458	31
6. Geography	15	58	4	44	4	73	5
7. Geology	12	64	6	150	13	250	21
8. German	15	203	14	149	14	248	17
9. History	20	227	12	514	26	857	43
10. Home Economics	12	79	7	161	14	268	23
11. Mathematics	18	915	51	1,163	65	1,938	108
12. Philosophy	15	41	3	173	12	288	19
13. Psychology	20	110	6	402	20	670	34
14. Political Science	20	44	3	184	9	307	16
15. Sociology and Anthro.	20	116	6	183	9	305	16
16. Spanish	15	58	4	144	10	240	16
17. Speech	15	70	5	200	14	333	22
18. Russian	15	25	2	58	4	97	7
19. Classics	15	10	1	21	2	35	3
20. Education	15	23	2	380	26	633	42
21. Library Science	15	21	2	69	5	115	8
TOTAL COLLEGE		4,611	315	7,541	503	12,568	826
AVE. FTE STUDENT/FTE STAFF		(14.6)		(14.2)		(15.2)	
COLLEGE OF COMMERCE & BUSINESS ADMINISTRATION							
22. Accountancy	18	169	10	282	16	470	26
23. Finance	18	2	--	86	5	143	8
24. Marketing	18	14	1	114	7	190	11
25. Management	18	20	2	246	14	410	23
TOTAL COLLEGE		205	13	728	42	1,213	68
AVE. FTE STUDENT/FTE STAFF		(15.8)		(17.3)		(17.9)	

	1. F.T.E. Student F.T.E. Staff Ratio	2. 1963 6,000 Enroll-2 yr. Prog. F.T.E. Students	3. 1963 6,000 Enroll-2 yr. Prog. F.T.E. Staff Required	4. 1965 12,000 Enroll-4 yr. Prog. F.T.E. Student	5. 1965 12,000 Enroll-4 yr. Prog. F.T.E. Staff Required	6. 1969 20,000 Enroll-4 yr. Prog. F.T.E. Students	7. 1969 20,000 Enroll-4 yr. Prog. F.T.E. Staff Required
COLLEGE OF ENGINEERING							
26. Chemical Engineering	12	1	0	29	3	48	4
27. Civil Engineering	12	86	8	415	35	692	58
28. Elec. Engineering	12	14	2	672	56	1,120	94
29. Mech. Engineering	12	276	23	655	55	1,092	91
30. Physics	12	267	23	548	46	913	76
TOTAL COLLEGE		644	56	2,319	195	3,865	323
AVE. FTE STUDENT/FTE STAFF		(11.5)		(11.9)		(12.0)	
COLLEGE OF CREATIVE ARTS							
31. Architecture	10	99	10	380	38	633	64
32. Art and Music	10	93	10	271	27	452	45
TOTAL COLLEGE		192	20	651	65	1,085	109
AVE. FTE STUDENT/FTE STAFF		(9.6)		(10.0)		(10.0)	
COLLEGE OF PHYSICAL EDUCATION							
33. P. E. for Men	12	244	21	352	30	587	49
34. Recreation	12	29	3	63	5	105	9
35. P. E. for Women	12	58	5	200	17	333	28
TOTAL COLLEGE		331	29	615	52	1,025	86
AVE. FTE STUDENT/FTE STAFF		(11.4)		(11.8)		(11.9)	
RESERVE OFFICERS TRAINING CORPS							
36. Military Science	15	17	2	146	10	244	16
TOTAL CORPS		17	2	146	10	244	16
AVE. FTE STUDENT/FTE STAFF		(8.5)		(14.6)		(15.2)	
TOTAL UNIVERSITY		6,000	435	12,000	867	20,000	1,428
AVE. FTE STUDENT/FTE STAFF		(13.8)		(13.4)		(14.0)	

COURSE UTILIZATION CURVES, URBANA-
CHAMPAIGN AND CHICAGO

FIGURES 1 - 36

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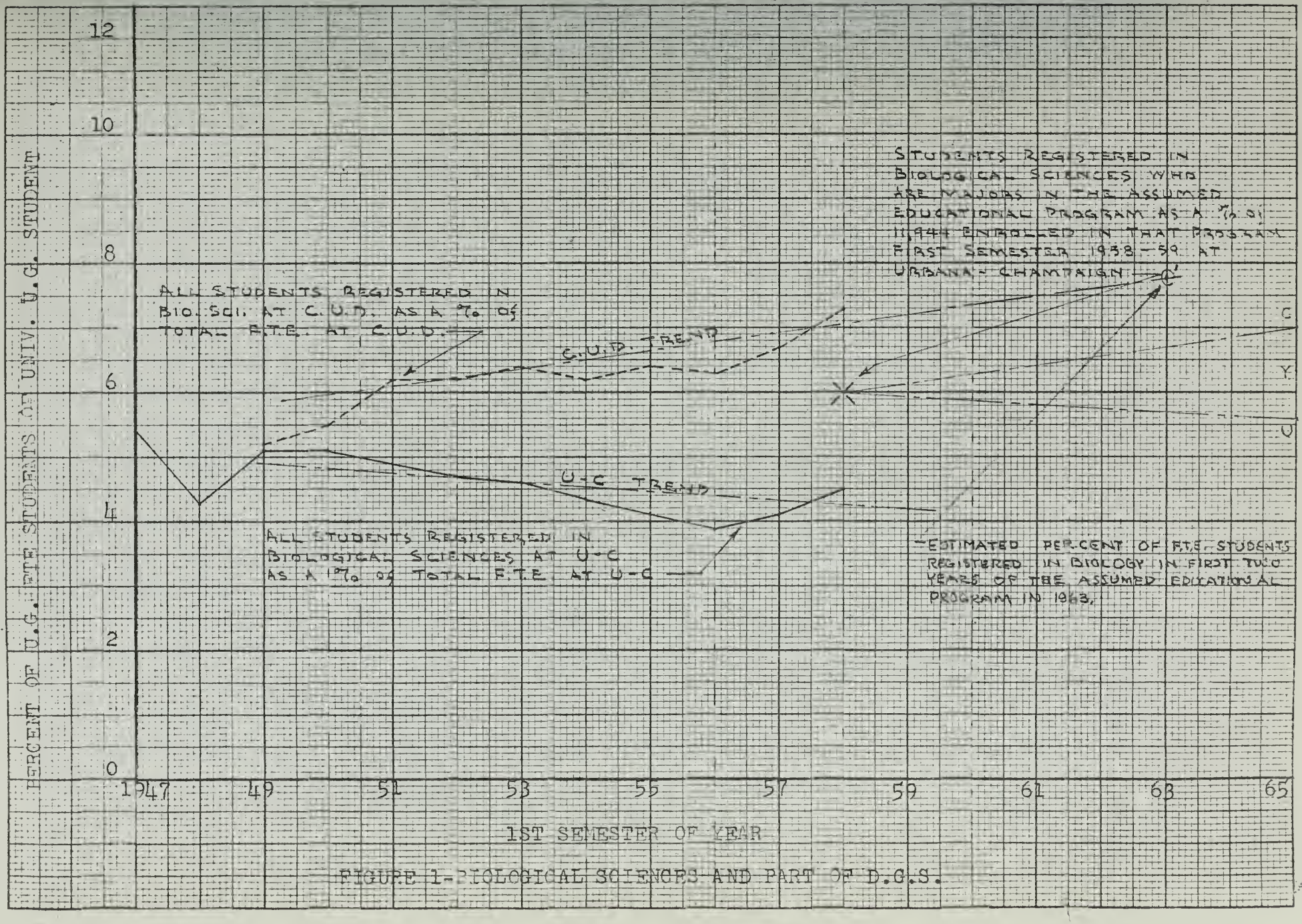

FIGURE 1-BIOLOGICAL SCIENCES AND PART OF D.C.S.

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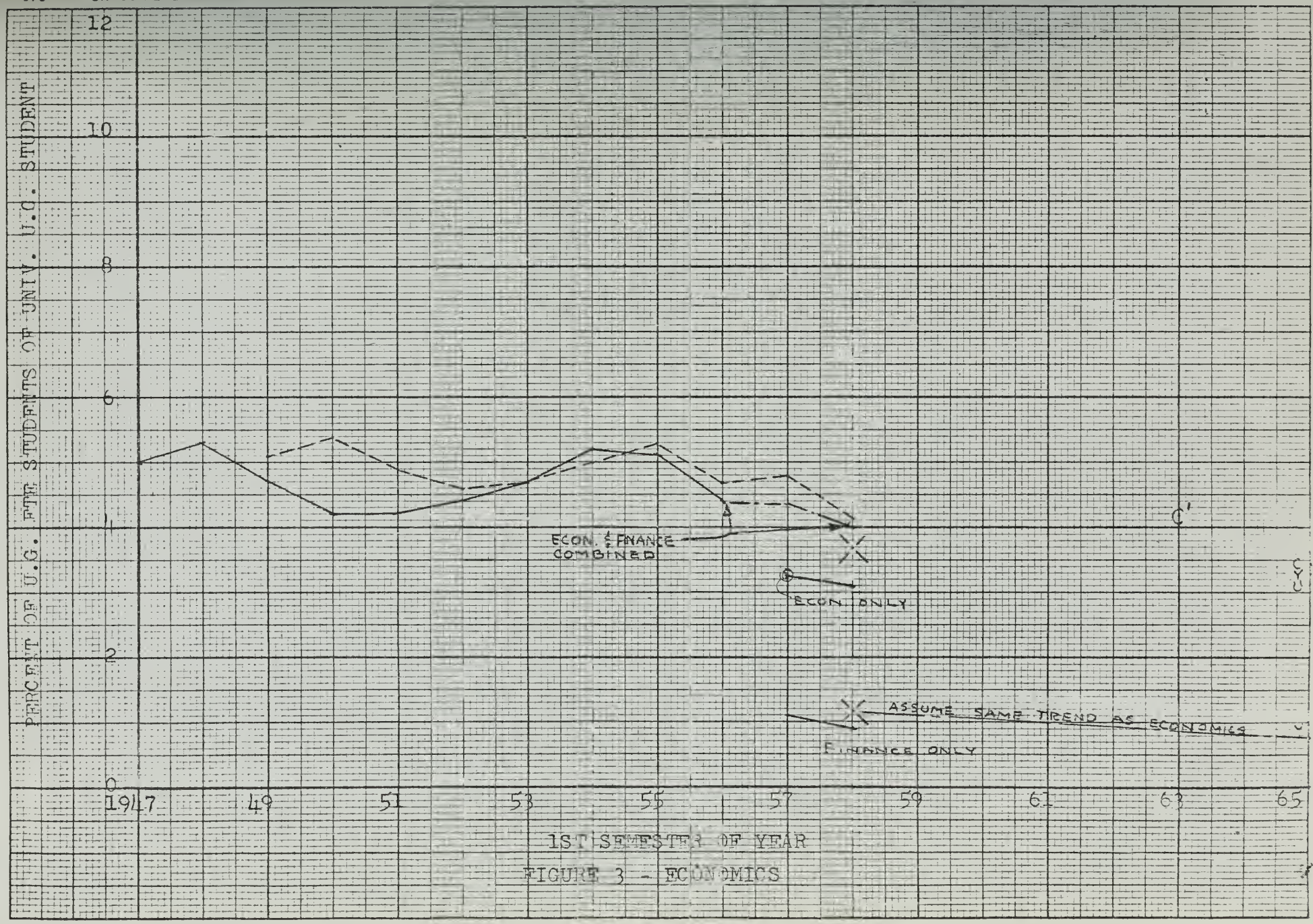

FIGURE 3 - ECONOMICS

FIGURE 4a- TOTAL ENGLISH INCLUDING LITERATURES

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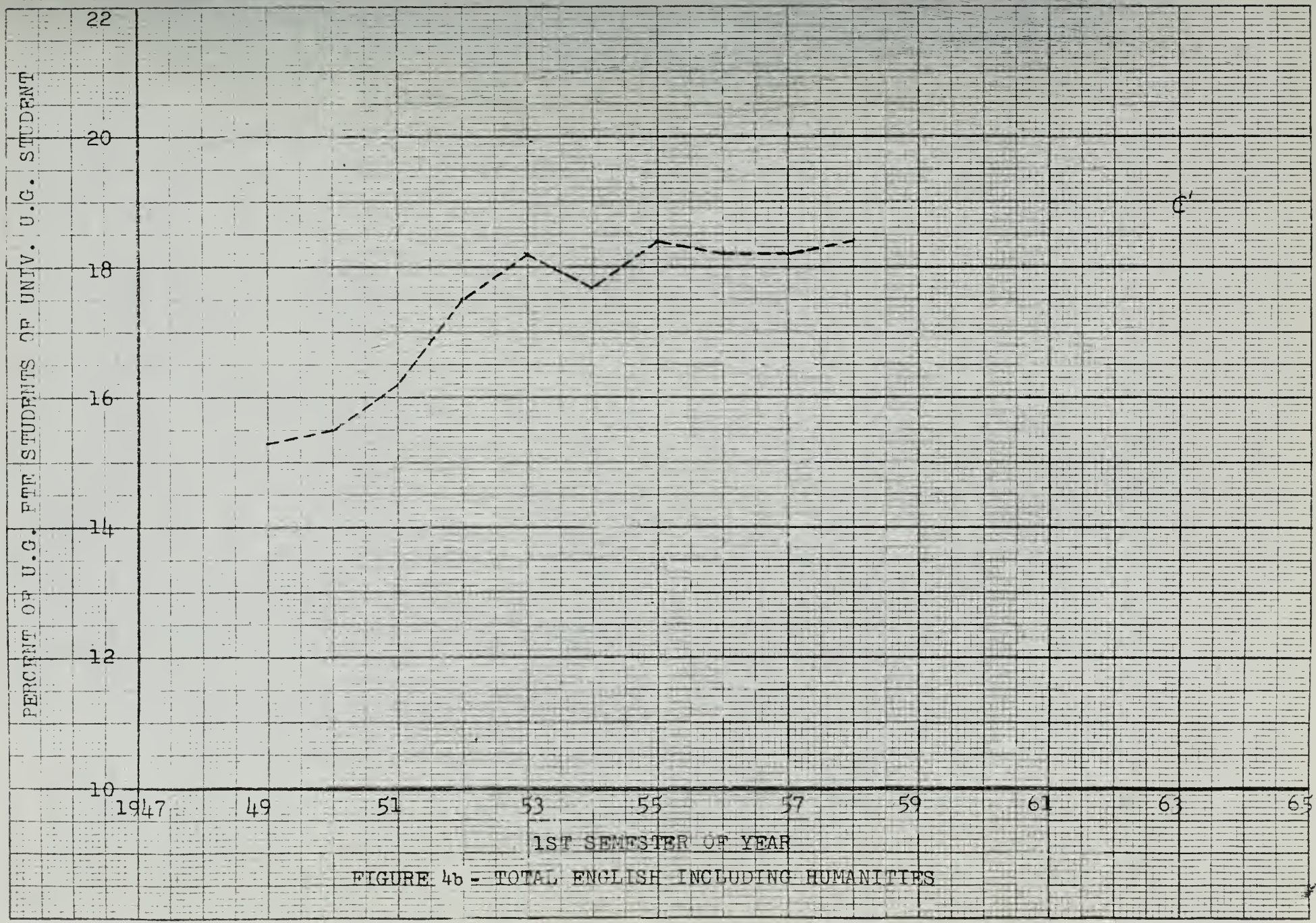

FIGURE 4b - TOTAL ENGLISH INCLUDING HUMANITIES

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FIGURE 9-GEOGRAPHY

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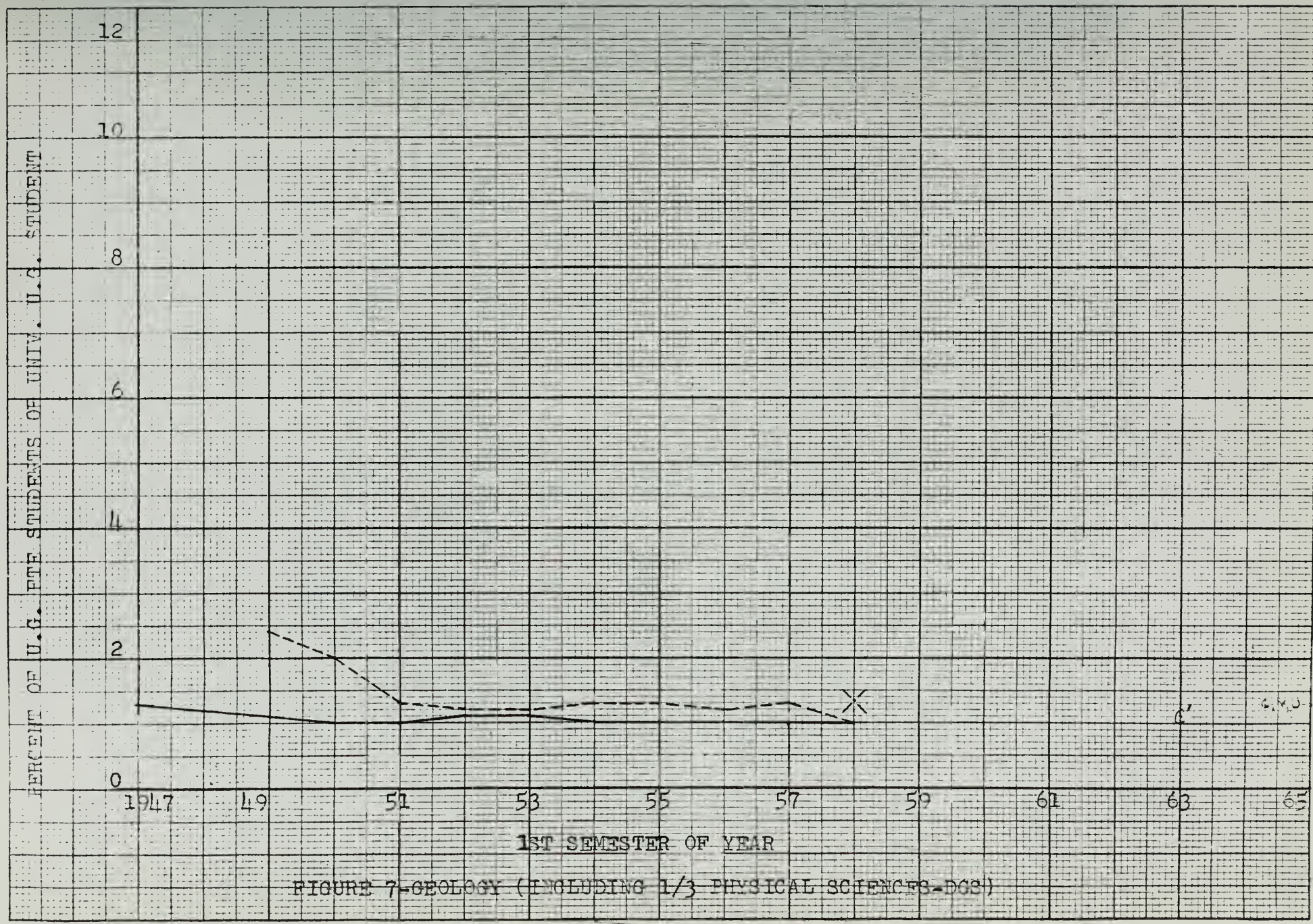

1ST SEMESTER OF YEAR

FIGURE 7-GEOLOGY (EXCLUDING 1/3 PHYSICAL SCIENCES-DGS)

FIGURE 8 — GERMAN

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FIGURE 10 - HOME ECONOMICS

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FIGURE 11a - MATH

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FIGURE 11b - MATH

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FIGURE 12 - PHILOSOPHY

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FIGURE 13 PSYCHOLOGY

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FIGURE 15 - SOCIOLOGY, SOCIAL SCIENCES AND ANTHROPOLOGY

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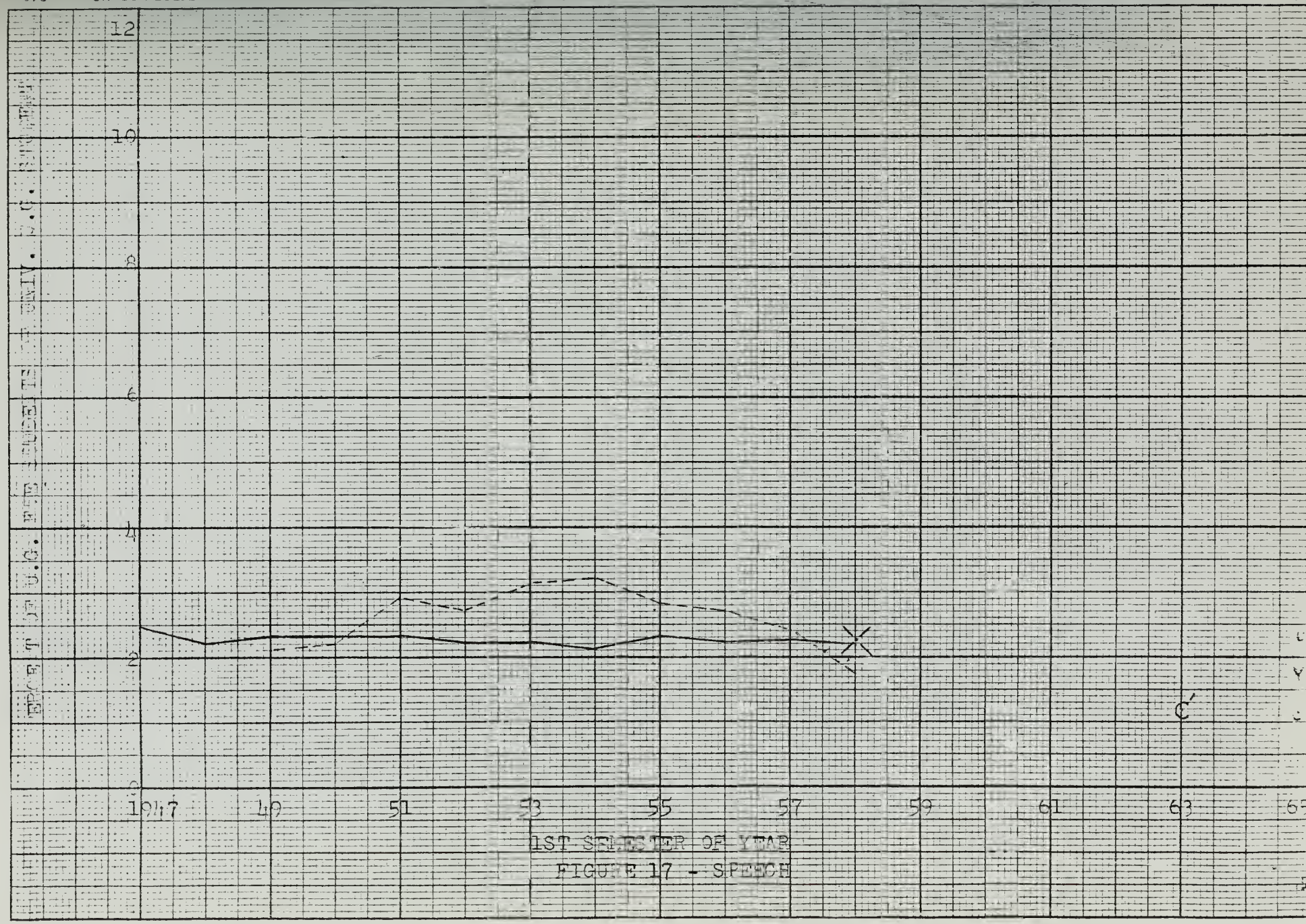

FIGURE 17 - SPEECH

A-21

PERCENT OF U.G. FTE STUDENTS OF UNIV. U.G. STUDENTS

0 2 4 6 8 10 12

1947 49 51 53 55 57 59 61 63 65

1st SEMESTER OF YEAR

FIGURE 18 - RUSSIAN

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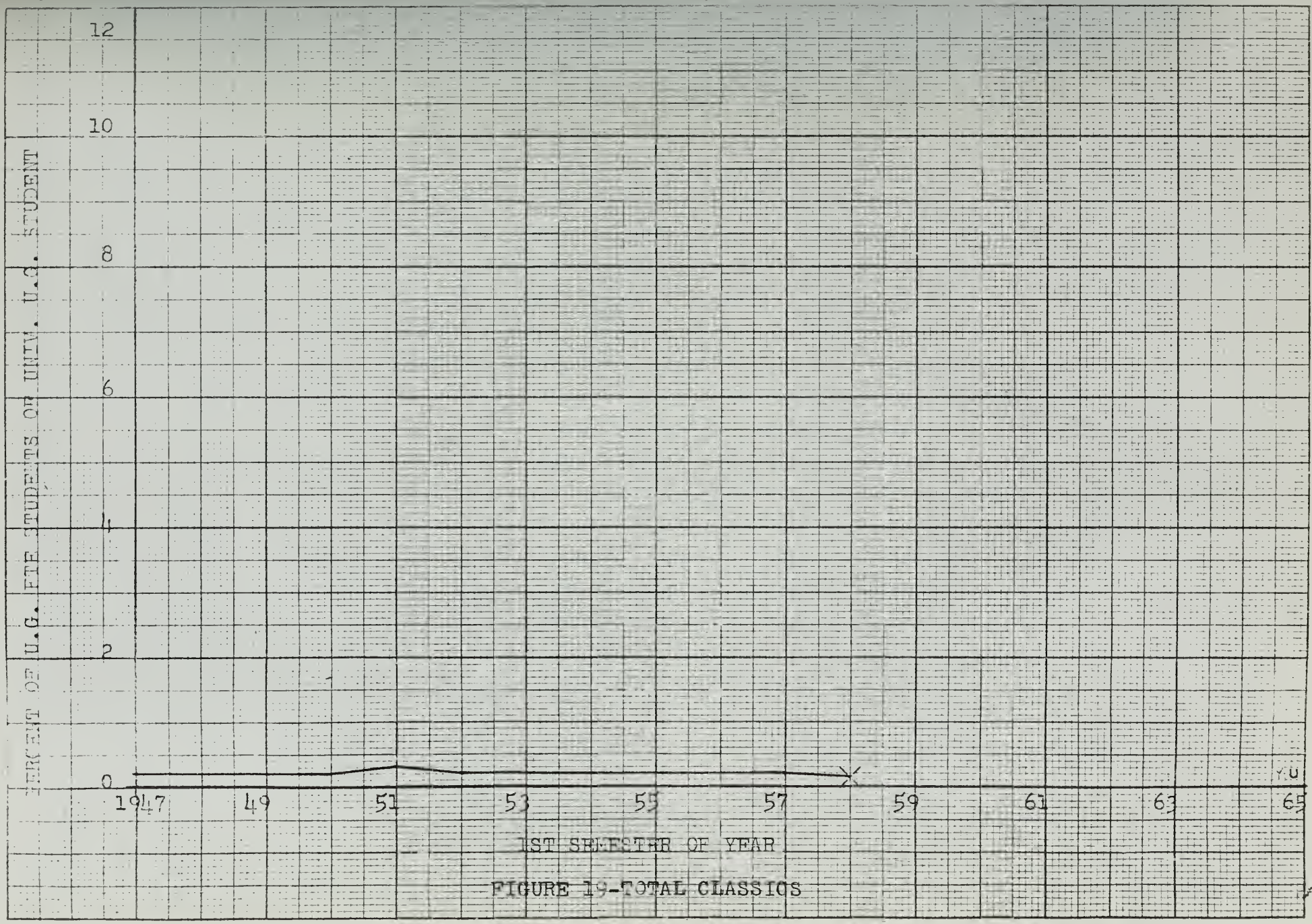

FIGURE 19-TOTAL CLASSICS

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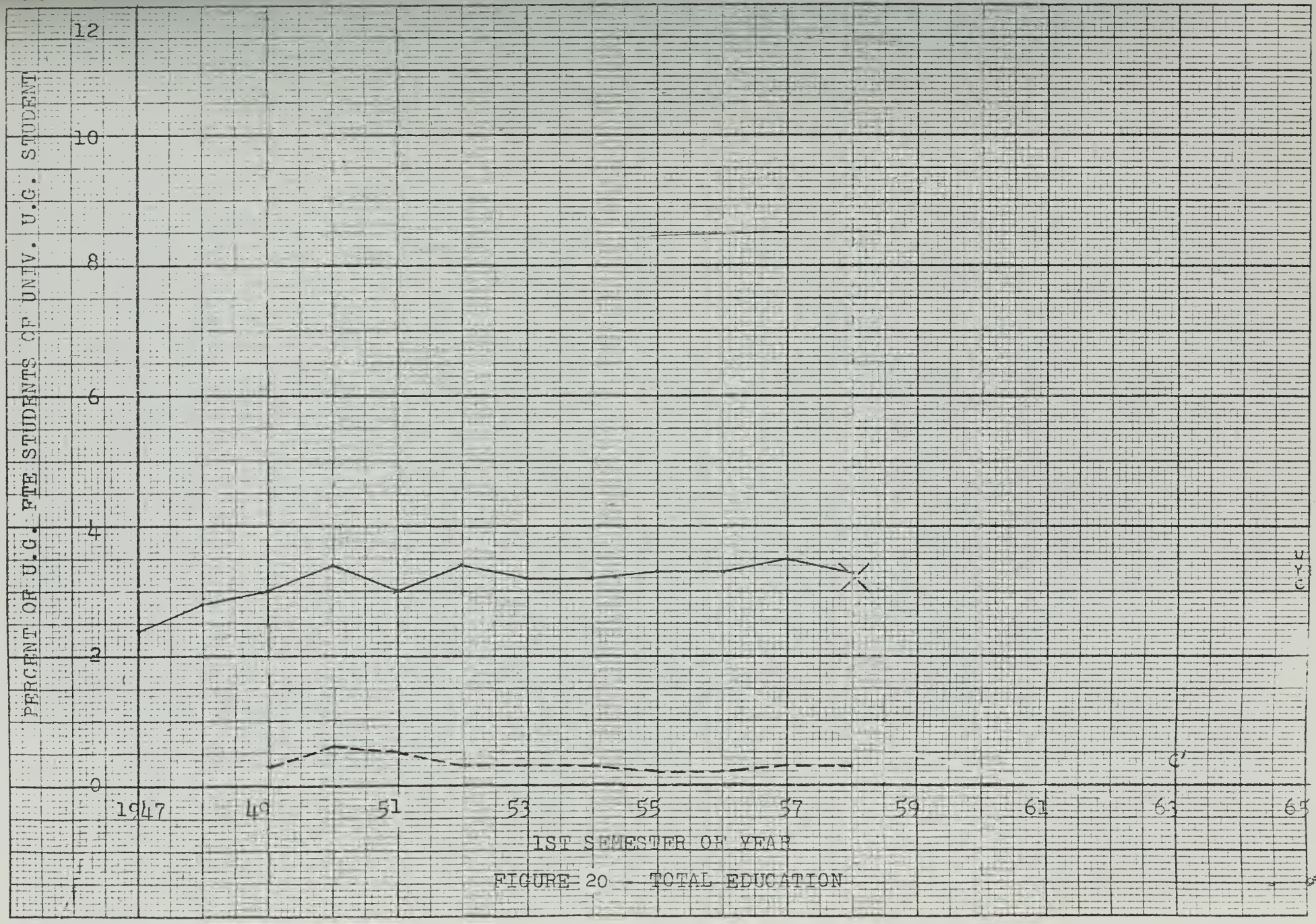

FIGURE 20 - TOTAL EDUCATION

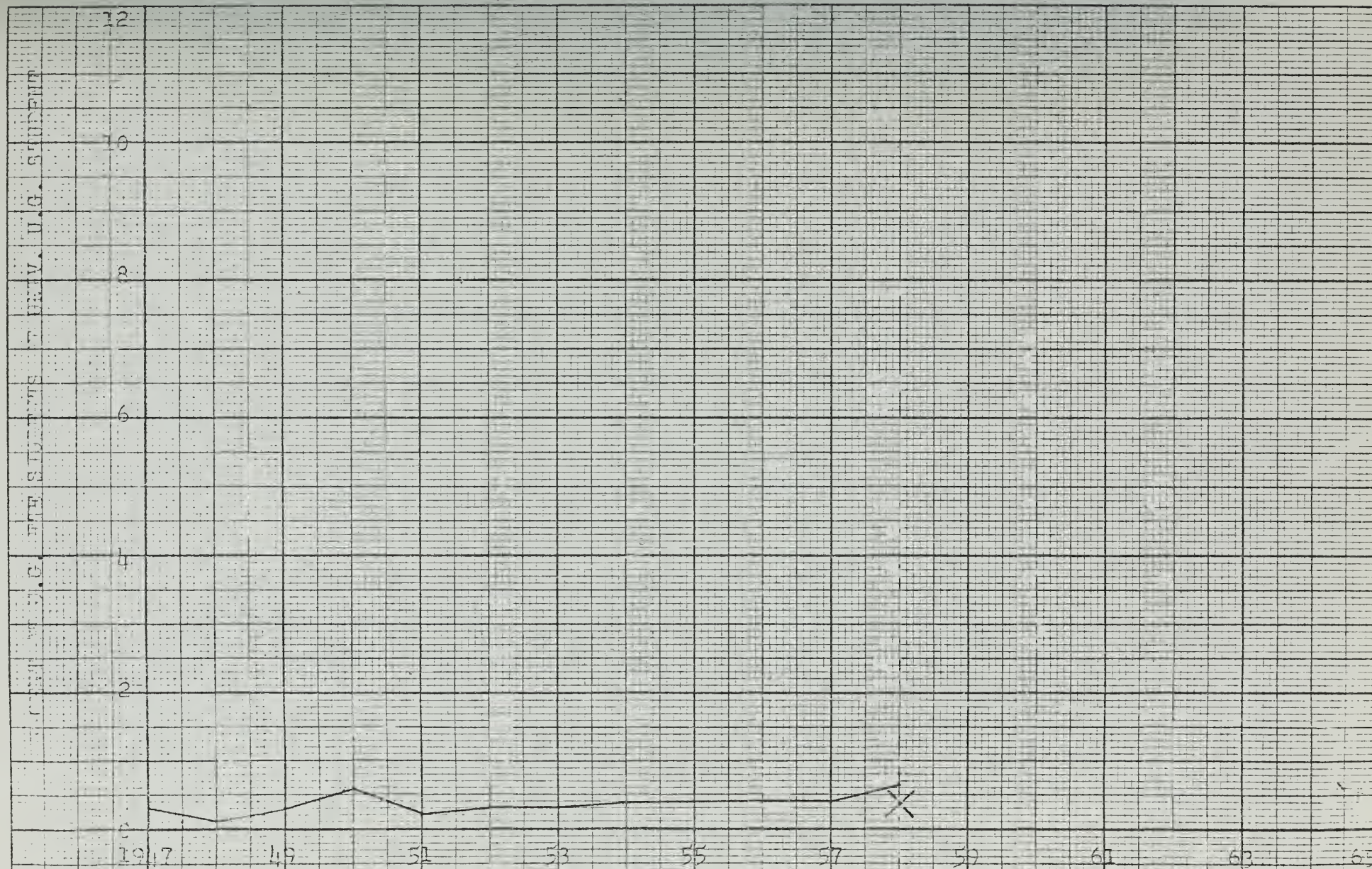

FIGURE 21 - LIBRARY SCIENCE

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FIGURE 22

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FIGURE 23 - FINANCE

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FIGURE 24 - MARKETING

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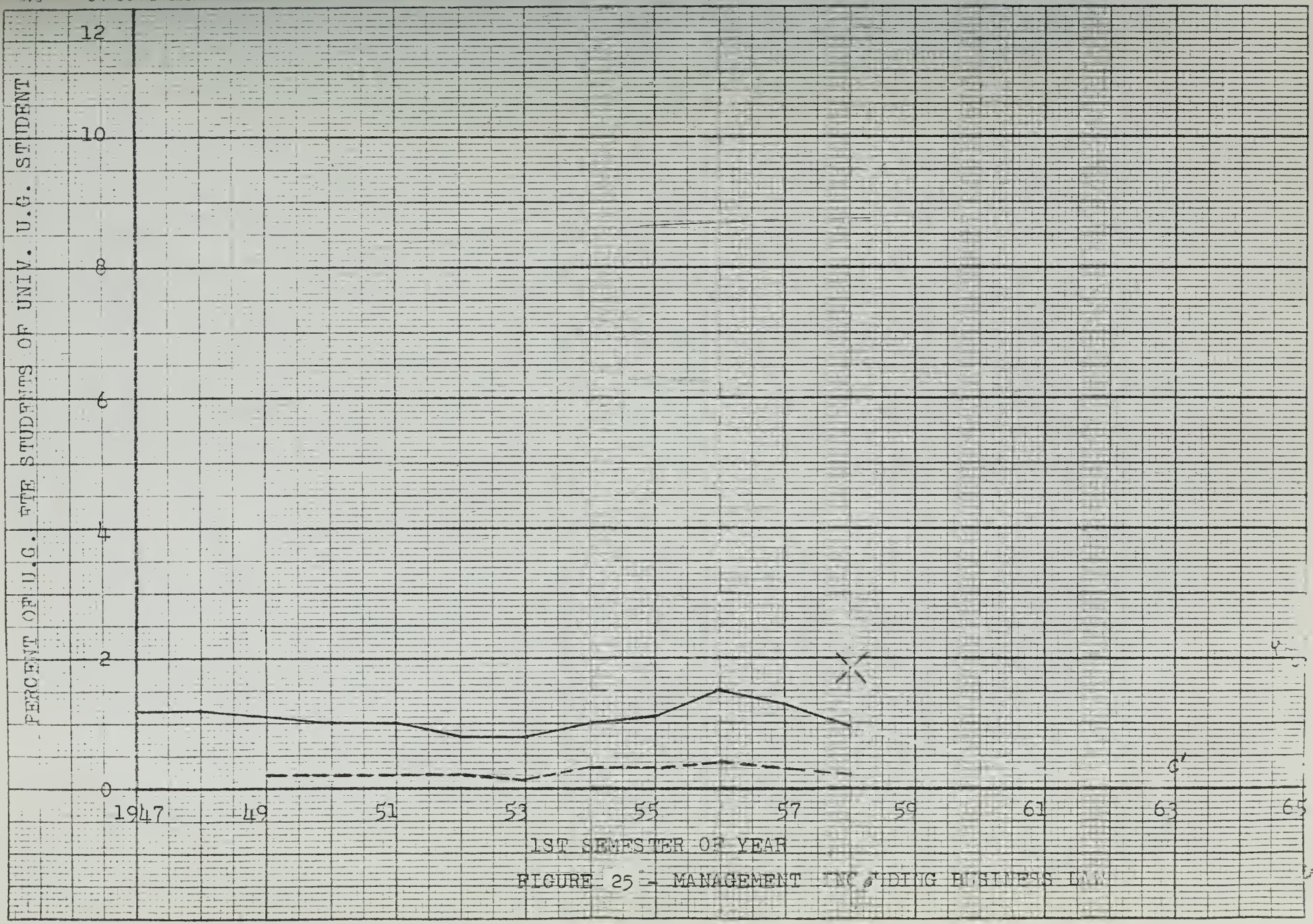

FIGURE 25 - MANAGEMENT INCLUDING BUSINESS LAW

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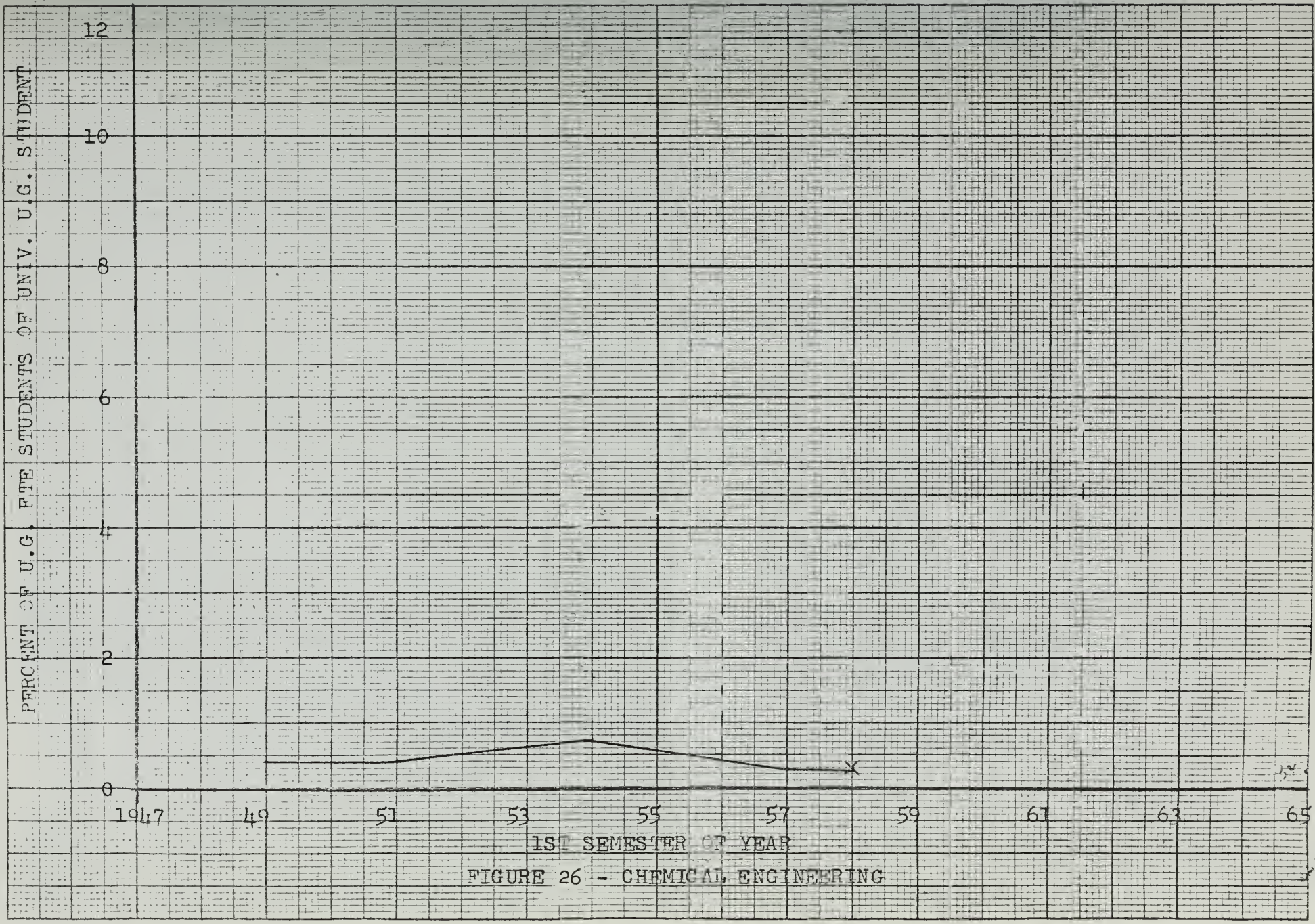

FIGURE 26 - CHEMICAL ENGINEERING

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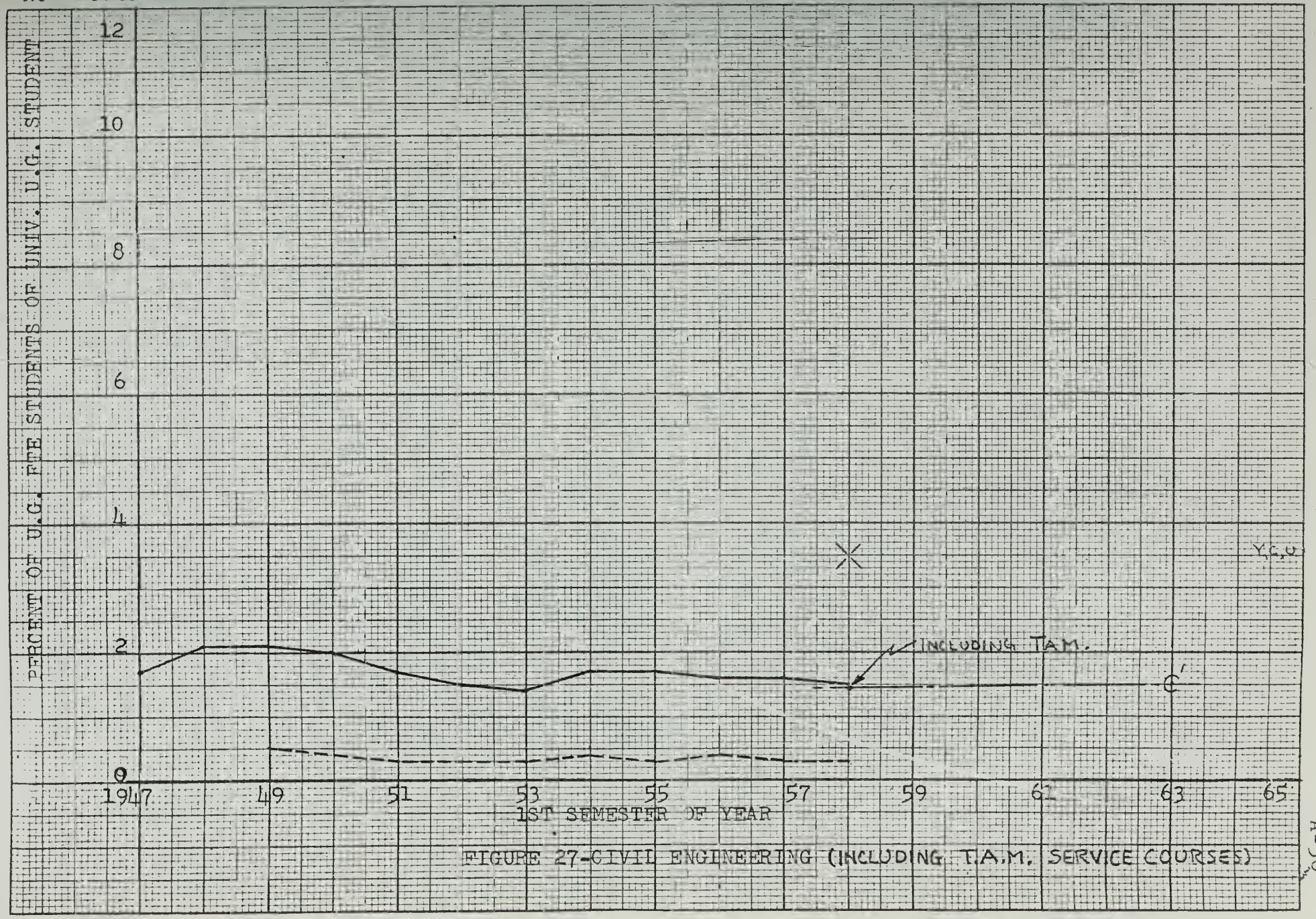

FIGURE 27-CIVIL ENGINEERING (INCLUDING T.A.M. SERVICE COURSES)

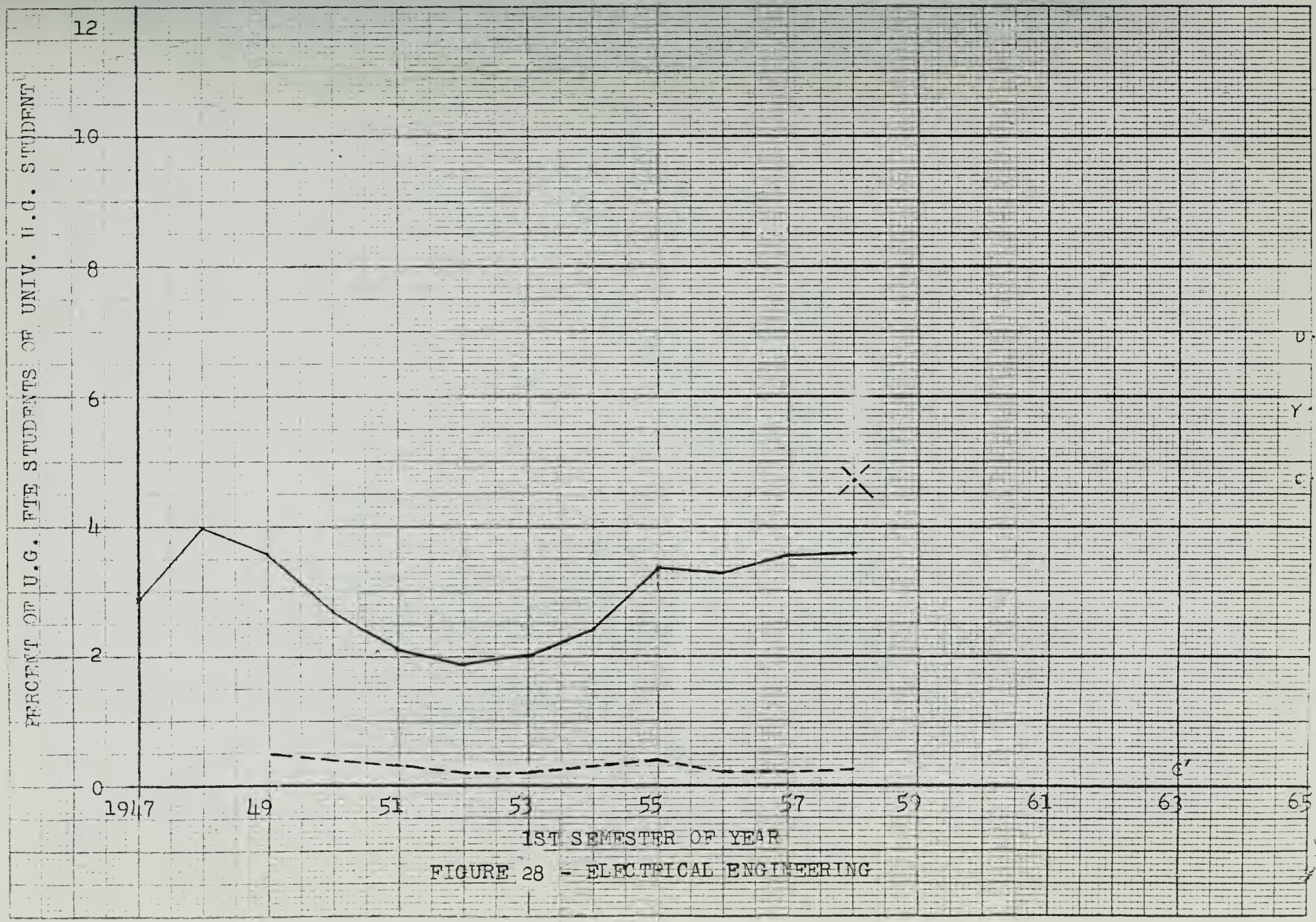

FIGURE 28 - ELECTRICAL ENGINEERING

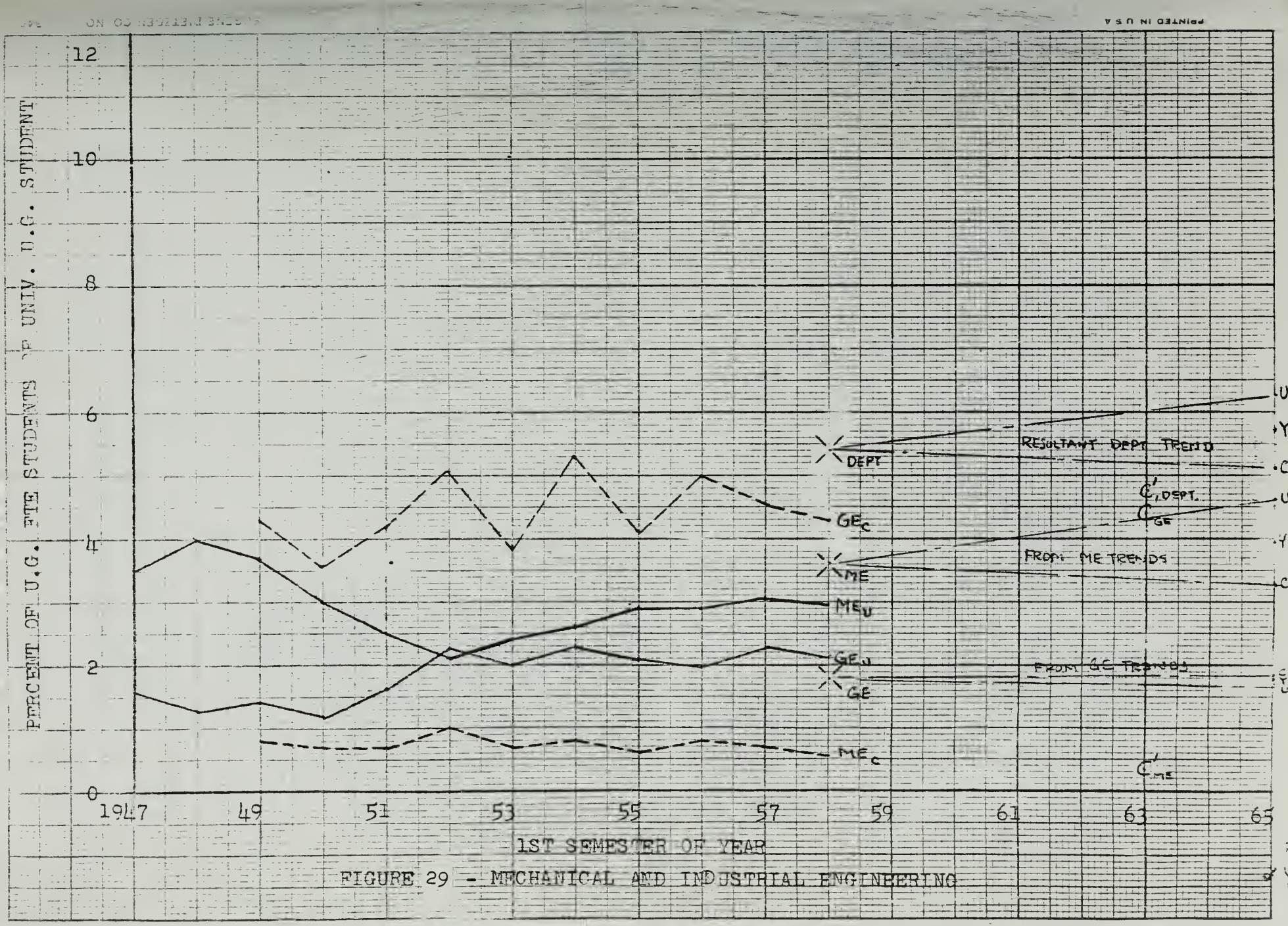

FIGURE 29 - MECHANICAL AND INDUSTRIAL ENGINEERING

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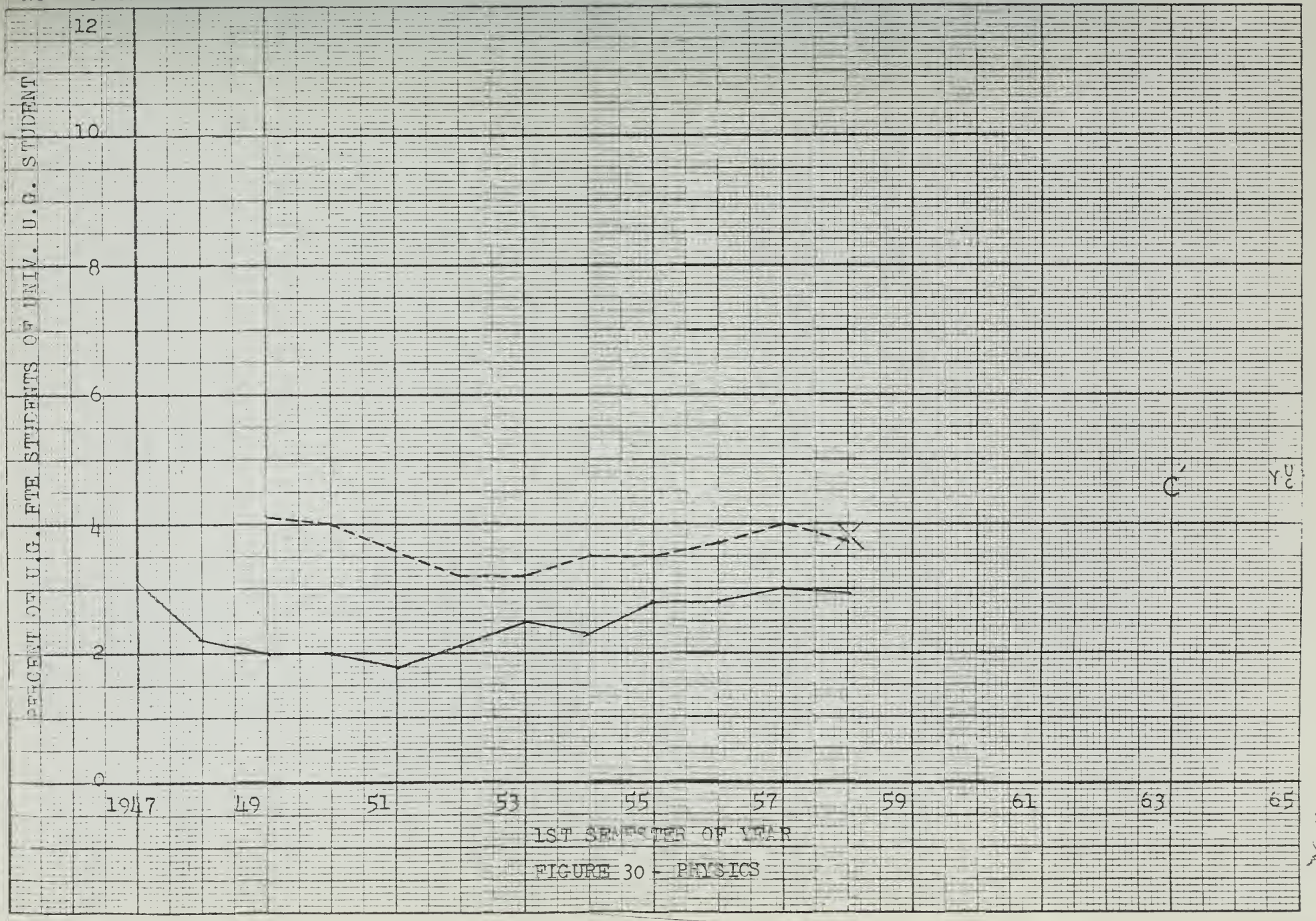

FIGURE 30 - PHYSICS

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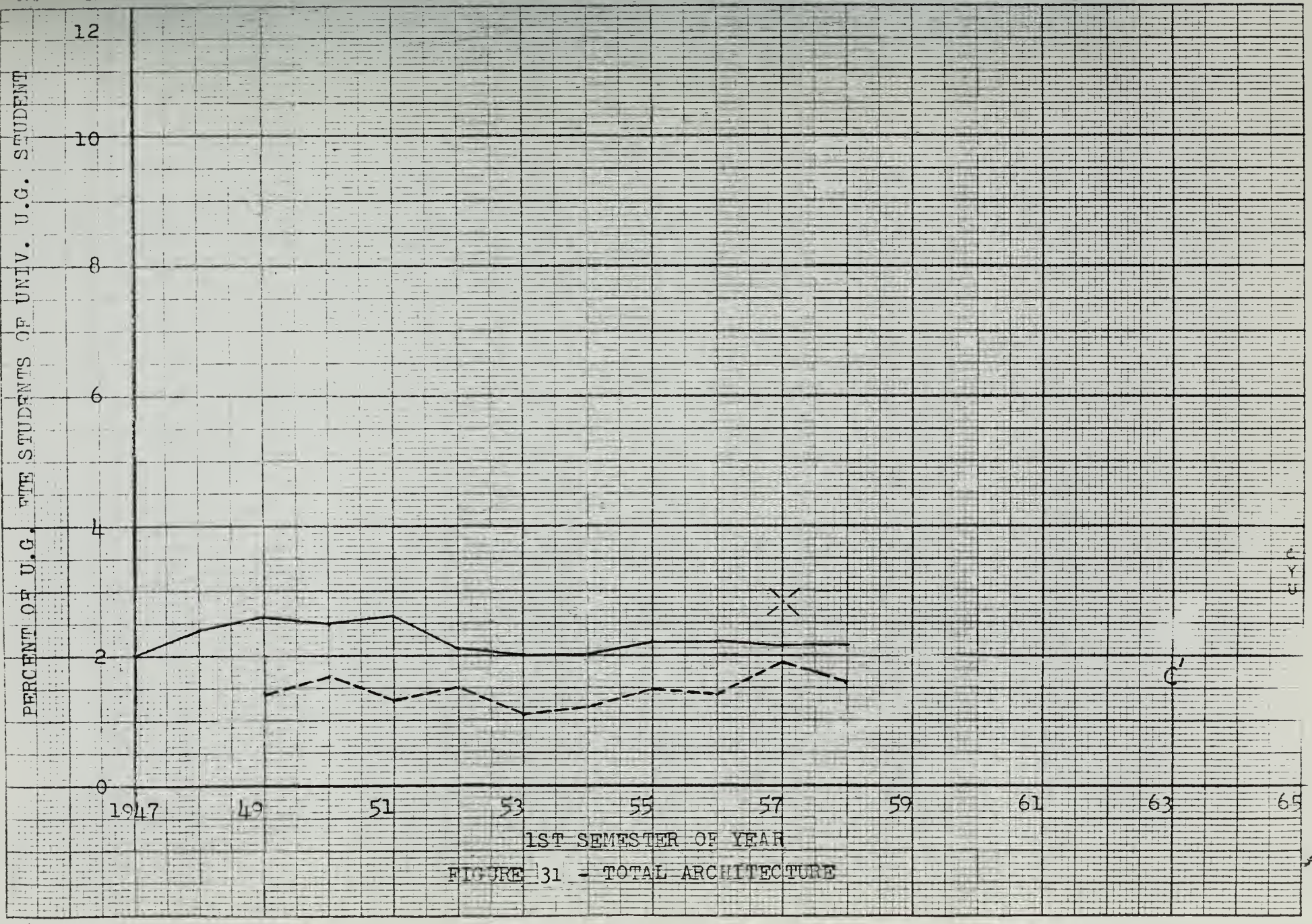

FIGURE 31 - TOTAL ARCHITECTURE

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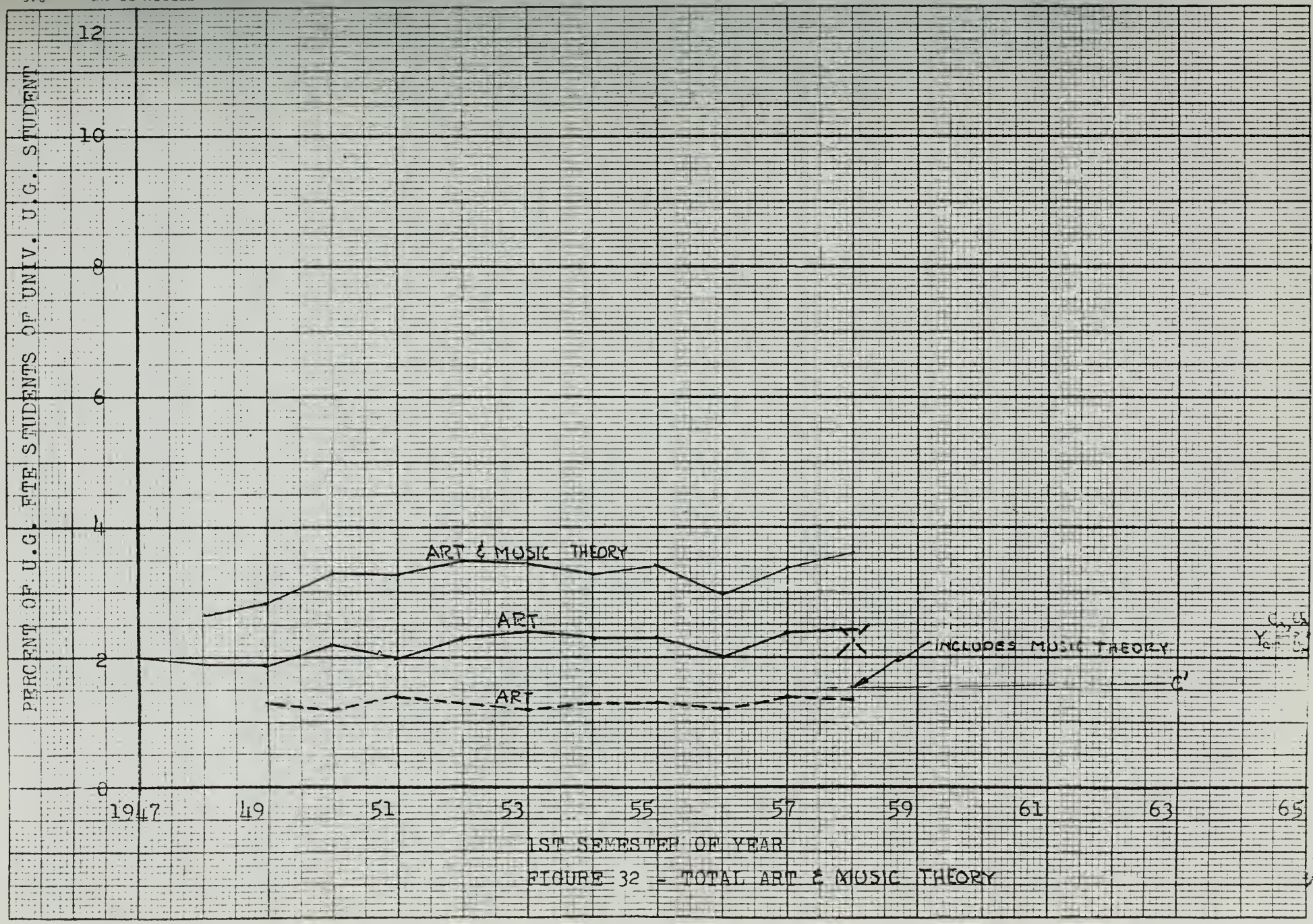

FIGURE 32 - TOTAL ART & MUSIC THEORY

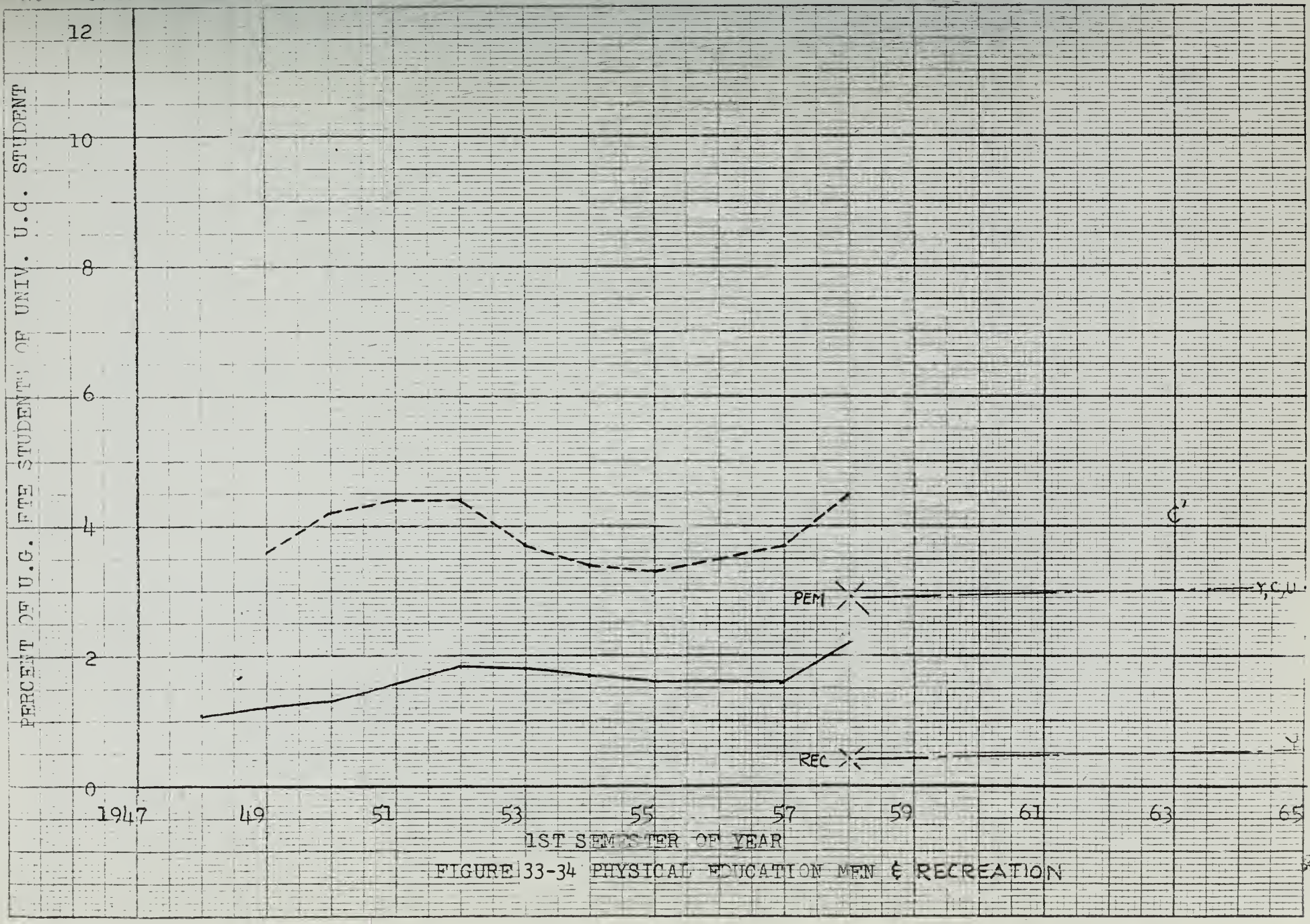

FIGURE 33-34 PHYSICAL EDUCATION MEN & RECREATION

V-142

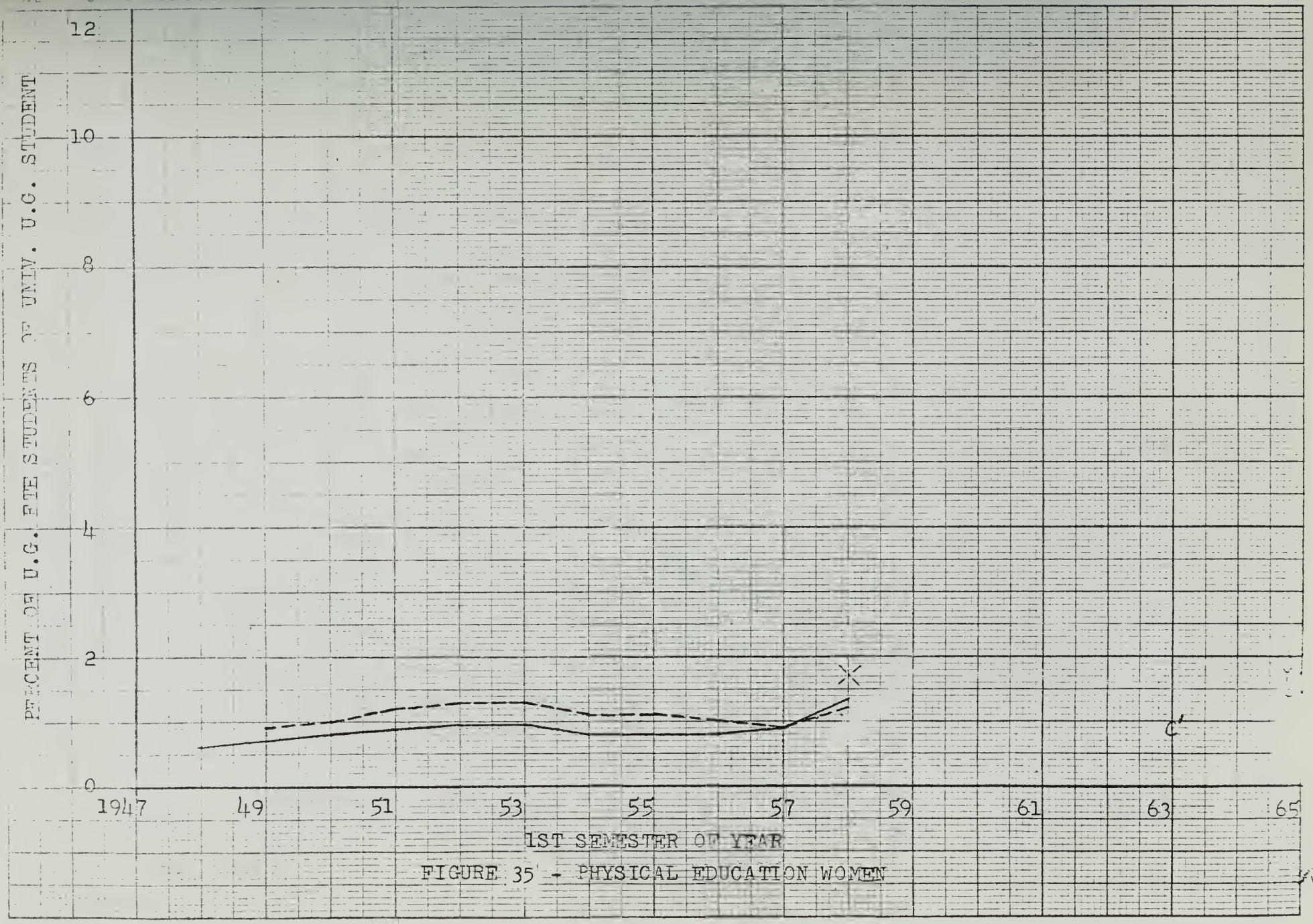

FIGURE 35 - PHYSICAL EDUCATION WOMEN

FIGURE 36 ------ TOTAL MILITARY SCIENCE

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APPENDIX B

ASSUMPTIONS, STANDARDS AND PROCEDURES FOR DETERMINING BUILDING SPACE

ASSUMPTIONS, STANDARDS, AND PROCEDURES FOR DETERMINING BUILDING SPACE AND LAND ESTIMATES

1. TEACHING STAFF OFFICES

The space required to provide office facilities for the teaching staff was estimated as follows:

a) Assumptions

1) The teaching staff will consist of approximately one-third senior staff (full professors and associate professors) and two-thirds junior staff (assistant professors, assistants, etc.).

2) The F.T.E. teaching staff will be treated as equal to the total head-count of staff for assignment of office space.

3) No staff appointments will be made exclusively for the purpose of research. The staff time required for research activities is reflected in the standard of teaching loads. The provision of office facilities for the F.T.E. teaching staff will also provide adequate office facilities for that required by the research program.

4) It is not desirable to accommodate more than two teaching staff members in any one office.

5) The space for administrative staff will be provided in addition and separately from the allotment for teaching staff.

6) The nonacademic staff office space required by the college or department will be provided for in the allotments for college or department administrative space. That required by general administrative service departments will be provided in the area of activity.

b) Standards

1) Senior staff - 150 sq. ft. per staff member in single station offices.

2) Junior staff - 75 sq. ft. per staff member in two station offices.

c) Procedure

1) Estimate of space required for teaching staff offices for 1963 & 1965.

   a. The total number of F.T.E. teaching staff by department was derived from estimated F.T.E. Teaching Staff for 1963 & 1965.

   b. The number of senior and junior staff by department was estimated in accordance with the stated assumption, a-(1).

   c. The standards were applied to the estimated staff derived in (2) above.

2) Estimate of space required for teaching staff offices for 1969.

a. As the assumptions and standards are applicable to the three periods the space required for teaching staff offices for 1969 was computed as a direct ratio between the estimated student enrollment for the two periods (1965 & 1969) and the staff office space required.

2. DEPARTMENT ADMINISTRATIVE OFFICES

The space required to provide for administrative office facilities for each department was estimated as follows:

a) Assumptions

1) The administrative staff for each department is a function of the size of the department program as represented by the number of staff members, and will require:

a. One administrative head for each department plus

b. One administrative assistant if the number of staff members is greater than 50 but less than 100 or

c. Two administrative assistants if the number of staff members is greater than 100.

d. One secretary for each department head and 20 staff members plus

e. One additional clerk for each administrative assistant and 20 staff members plus

f. One additional clerk for each additional 30 staff members.

2) It is desirable to provide the administrative space in the first stage of construction for a department adequate for the administration of the department program estimated for 1969 in order to assure contiguous facilities for this activity for the planning period.

3) The Reserve Officers' Training Corps was treated as a department for the purpose of space determination.

b) Standards

1) 150 sq. ft. per each academic administrative staff member.

2) 300 sq. ft. per department for conference room.

3) 80 sq. ft. per each secretary and clerical staff member.

4) 150 sq. ft. per department for reception area.

5) 35 per cent of above for file, work and storage area.

c) Procedure

1) Determine the number of administrative staff (academic and non-academic) by department in accordance with the assumptions and the estimated F.T.E. teaching for 1969.

2) Apply the standards from (b) above to the department and the administrative personnel required.

3. COLLEGE ADMINISTRATIVE OFFICES

The space required to provide for administrative office facilities for each college was determined as follows:

a) Assumptions

1) The college administrative staff will approximate the total number required for administration of similar colleges at Urbana-Champaign after being adjusted for the larger research and service programs at Urbana-Champaign than is anticipated at the Chicago campus. One administrative assistant was deleted from each of the Urbana-Champaign colleges. The nonacademic staff was similarly reduced as follows:

College of Liberal Arts and Sciences--no reduction
College of Commerce--reduced by 6 clerical staff
College of Engineering--reduced by 5 clerical staff

2) (Same as for department administrative offices.)

b) Standards

1) 200 sq. ft. for Dean of the college.

2) 150 sq. ft. per each academic administrative staff member.

3) 300 sq. ft. per college for conference room.

4) 80 sq. ft. per each secretary and clerical staff member.

5) 200 sq. ft. per reception area.

6) 35 per cent of above for file work, and storage area.

c) Procedure

1) Determine the number of administrative staff (academic and non-academic) by college in accordance with the assumptions.

2) Apply the standards from (b) above to the college and the administrative personnel required.

4. CLASSROOMS

The space required for classroom instruction and the distribution of classrooms both in size and by departments were determined as follows:

a) Assumptions

1) Each department will offer courses in the curriculum for which it is responsible in accordance with the listings as indicated in Appendix K.

2) The basic distribution of students registered in each course under each curriculum will be similar to the registration the first semester 1958-59 in like courses at the Urbana-Champaign campus (as modified in Appendix K). Military Sciences are not included here.

3) The future distribution of students to each curriculum and courses offered will be in accordance with the growth of the curriculum as estimated and indicated in Table 1.

4) The section size for each course will be as recommended by the Urbana-Champaign Special Curriculum Committee and the Chicago Undergraduate Division College Administrators.

5) The number of classroom contact hours required for each course will be the same as that required for similar courses offered the first semester 1958-59 at the Urbana-Champaign or Chicago Undergraduate Division campus.

6) A course with a registration of 1 or 2 students will be conducted in an office facility and will not contribute to classroom requirements.

7) A course with a registration of 3 to 5 students will be deleted from the list of courses offered.

b) Standards

1) Classroom size

a. 15 station classrooms--20 sq. ft. per station (300 sq. ft. total)

b. 30 station classrooms--15 sq. ft. per station (450 sq. ft. total)

c. 45 station classrooms--14 sq. ft. per station (630 sq. ft. total)

d. 60 station classrooms--13 sq. ft. per station (780 sq. ft. total)

e. 125 station classrooms--10 sq. ft. per station (1250 sq. ft. total)

f. 250 station classrooms--9 sq. ft. per station (2250 sq. ft. total)

2) Classroom utilization

a. Classrooms will be utilized on an average of 36 hours per week.

b. The number of stations required per classroom will be based on an 80 per cent student station utilization.

c) Procedures

1) For each course the number of credit hours, contact hours, and desirable section size was obtained from the following sources:

a. Urbana-Champaign Special Curriculum Committee

b. Chicago Undergraduate Division College Administrators

c. Bureau of Institutional Research listing of assumed course registrations.

2) If a course had a registration on Bureau of Institutional Research listing, then the course was included on a summary sheet for calculation.

The above two procedures were used to complete Appendix K which was referred to in the classroom assumptions (a)-1.

3) All courses were grouped by curricula with the course registrations for 1958.

4) The 1958 course registration was multiplied by the Course Projection Factor for the respective curriculum from Table 1, Column 9 in order to obtain the 1965 registration.

5) The 1965 course registration was divided by the desirable section size for the course as recommended by the Urbana-Champaign Special Curriculum Committee and Chicago Undergraduate Division College Administrators in order to obtain the number of sections required.

6) The number of sections required was then multiplied by the contact hours per section to obtain the total contact classroom hours required.

7) The total contact classroom hours were grouped into a suggested category of room size (15, 30, 45, 60, 125, or 250 stations) with an allowance for 80% station utilization.

This was accomplished as follows:

Section sizes between 6 and 15 were grouped in 15 station rooms.

Section sizes between 16 and 27 were grouped in 30 station rooms.

Section sizes between 28 and 41 were grouped in 45 station rooms.

Section sizes between 42 and 54 were grouped in 60 station rooms.

Section sizes between 55 and 113 were grouped in 125 station rooms.

Section sizes between 114 and over were grouped in 250 station rooms.

8) The contact hours were then summarized by course and suggested capacity.

9) The total contact hours for the "University" for each suggested capacity category was then divided by 36 average hours use in order to determine the number of rooms required.

10) The number of rooms required was multiplied by the standard of square feet area per room to obtain the total square feet of classroom area required for each suggested capacity category.

11) The number of and total square feet of classrooms by size category were then allotted to each department in accordance with the calculated demand for each department with the exception of seminar rooms.

12) Seminar rooms (size category 15 stations) were distributed to provide at least one seminar room for each department. In order to accomplish this the large number of seminar size rooms required by the English Department were distributed among the College of Liberal Arts and Science Departments whether or not the calculated demand indicate the need. The Department of English will share the use of these rooms with the department to which they were assigned.

SPECIAL 1963 CLASSROOM CALCULATION PROCEDURE

Procedure used to develop information concerning number and size of classrooms for C.U.D. 2 year program in 1963.

1. The 1958-59 course registrations for the A.E.P. in Appendix K were organized into three categories: Freshman-Sophomore, Junior and Senior registrations.

2. A course having Freshman-Sophomore registration was qualified to be included in the 1963 classroom calculations.

3. The 1963 course registration was obtained by applying a growth ratio factor to the 1958-59 course registration data. This growth ratio factor for each curriculum was obtained as follows:

a) Average Number Registrations Per FTE Student in a Given Curriculum = $\frac{\text{1958 Freshman-Sophomore Registration}}{\text{1958 Freshman-Sophomore F.T.E.}}$

b) Total Number Registration in 1963 C.U.D. 2 year Program for a Given Curriculum = (Average Number Registrations Per F.T.E. Student) x (1963 F.T.E. Students)

c) Growth Ratio for a Given Curriculum = Total Registrations for 1963 C.U.D. 2 Year Program for a Given Curriculum / Total Registrations for 1958-59 Freshman-Sophomore A.E.P. for a Given Curriculum

d) Individual 1963 Course Registration = (Individual 1958-59 (Course Registration) x (Growth Ratio for a Given Curriculum)

4. If a Freshman-Sophomore course registration of 1 or 2 existed and if the course had a large registration in the Junior and Senior years, then the course was eliminated from the 1963 calculations and the registration of 1 or 2 was distributed to other courses.

5. From this point on, the same procedure was used as for the 1965 classroom calculations starting with item 4-C-5 in Appendix B.

5. INSTRUCTIONAL LABORATORIES

The space required for instructional laboratories both in size and by department was determined as follows:

a) Assumptions

1) Each department will offer courses in the curriculum for which it is responsible in accordance with the listings as indicated in Appendix K.

2) The basic distribution of students registered in each curriculum and courses under each curriculum will be similar to the registration First Semester 1958-59 in like courses at the Urbana-Champaign campus and modified in appendix except for Military Sciences.

3) The future distribution of students registered in each curriculum and courses offered will be in accordance with the growth of the curriculum as estimated and indicated in Table 1.

4) The section size for each course will be as recommended by the Urbana-Champaign Special Curriculum Committee and the Chicago Undergraduate Division College Administrators.

5) The number of hours per laboratory period and the number of instructional laboratory contact hours required for each course will be the same as that required for similar courses offered in the first semester 1958-59 at the Urbana-Champaign or Chicago Undergraduate Division campus.

6) A course with a registration of 3 to 5 students will be deleted from the list of courses offered.

b) Standards

1) Laboratory types	Net Sq. Ft. Per Station
a) Biological Sciences	50
b) Chemistry	50, 70, 100
c) Economics Statistics	35
d) Journalism	35
e) Languages Listening Laboratories (French, German, Italian and Portuguese, and Russian)	30
f) Geology	35
g) Home Economics (Child Development, Food, Home Furnishings, Clothing, and Textile)	50
h) Psychology	40
i) Physics	50, 70
j) Sociology and Anthropology	35
k) Speech Listening Laboratory	50
l) Art	60
m) Education	40
n) Management (Business Education) Typewriting and Shorthand	30
o) Civil Engineering	40
Drafting	
Concrete and Soils	150
p) Electrical Engineering	75, 150
q) Mechanical Engineering and Industrial Engineering	
Drafting	40
Heating, Ventilating and Air Conditioning	40
Foundry, Metal Processing, Welding, Heat Treatment, Internal Combustion and Power Laboratory	150
r) General Engineering Drafting	40

s) Theoretical and Applied Mechanics

Concrete Testing	150
Hydraulic Laboratory	250

t) Architecture

Drafting	60

2) Instructional Laboratory Utilization

a) Instructional laboratories in which the laboratory period consists of one or two hours will be utilized an average 36 hours per week. Instructional laboratories in which the laboratory period consists of 3 hours will be utilized an average 24 hours per week.

b) The number of stations required per instructional laboratory will be based on an 80 per cent student station utilization.

c) Procedure

1) For each course the number of credit hours, contact hours, and desirable section size was obtained from the following sources:

Champaign-Urbana Special Curriculum Committee.

Chicago Undergraduate Division College Administrators.

Bureau of Institutional Research listing of assumed course registrations.

2) If a course had a registration on Bureau of Institutional Research listing, the course was included on a summary sheet for calculation.

The above two procedures were used to complete Appendix K which was referred to in the Instructional Laboratory assumption (a)-1.

3) All courses were grouped by curricula and by assumed similar type laboratories, using a laboratory reference number for each different type, and using course registrations for 1958.

4) The 1958 course registration multiplied by the course projection factor for the respective curriculum from Table 1, Column 9 in order to obtain the future course registration.

5) The future course registration was divided by the desirable section size for the course as recommended by the Urbana-Champaign Special Curriculum Committee and Chicago Undergraduate Division College Administrators in order to obtain the number of sections required.

6) The number of sections required was then multiplied by the contact hours per section to obtain the total contact laboratory hours required.

7) Dividing the total contact laboratory hours required by an average use per week figure of 24 hours for 3-hour courses and of 36 hours for 1- and 2-hour courses, the number of laboratories required was obtained.

8) The net square feet laboratory required was obtained by the following formula:

Formula

$$\frac{(\text{No. of labs}) \times \left(\frac{\text{Planned Station}}{\text{Size}}\right) \times \left(\frac{\text{Desired Section}}{\text{Size}}\right) \times \left(\frac{20\% \text{ Lab.}}{\text{Aux. Allows}}\right)}{80\% \text{ Station Utilization}} = \text{Net Square Feet Laboratory required in 1965.}$$

Example

$$\frac{(2 \text{ Labs}) \times (50 \text{ Sq. Ft./Station}) \times (24 \text{ Stations}) \times 1.20}{.80} =$$

9) A sub-total is given for each department as to the number of laboratories required and the amount of net square feet laboratory and auxiliary area required.

SPECIAL 1963 INSTRUCTIONAL LABORATORY
CALCULATION PROCEDURE

Procedure used to develop information concerning number and size of Instructional Laboratories for C.U.D. 2 Year Program in 1963.

1. The 1958-59 course registrations for the A.E.P. in Appendix K were organized into three categories: Freshman-Sophomore, Junior, and Senior registrations.

2. A course having a Freshman-Sophomore registration was qualified to be included in the 1963 instructional laboratory calculations.

3. The 1963 course registration was obtained by applying a growth ratio factor to the 1958-59 course registration data. This growth ratio factor for each curriculum was obtained as follows:

a) Average Number Registrations Per FTE Student in a Given Curriculum = $\frac{\text{1958 Freshman-Sophomore Registration}}{\text{1958 Freshman-Sophomore F.T.E.}}$

b) Total Number Registration in 1963 C.U.D. 2 year Program for a Given Curriculum = (Average Number Registrations Per F.T.E. Student) x (1963 F.T.E. Students)

c) Growth Ratio for a Given Curriculum = $\frac{\text{Total Registrations for 1963 C.U.D. 2 Year Program for a Given Curriculum}}{\text{Total Registrations for 1958-59 Freshman-Sophomore A.E.P. for a Given Curriculum}}$

d) Individual 1963 Course Registration = (Individual 1958-59 (Course Registration)) x (Growth Ratio for a Given Curriculum)

4. If a Freshman-Sophomore course registration of 1 or 2 existed and if the course had a large registration in the Junior and Senior years, then the course was eliminated from the 1963 calculations and the registrations of 1 or 2 was distributed to other courses.

5. From this point on, the same procedure was used as for the 1965 instructional laboratory calculations starting with item 5-c-5 in Appendix B.

6. RESEARCH LABORATORIES (1969)

a) Assumptions

1) The estimated 20,000 students for 1969 will include the graduate students enrolled in the program at that time. (As suggested by Dr. E. Potthoff.)

2) The Graduate Program in 1969, in general, probably will be limited to the Master's level. The major graduate and research programs will remain at Urbana-Champaign. This is in keeping with the recommendations of the "Almy Report" in that Urbana-Champaign should concentrate the major growth at the upper division and graduate level.

3) The space for the graduate programs will be provided from the allotment for research.

4) Space for research will be provided:

a. For Phase I (6,000 enrollment) and Phase II (12,000 enrollment) from the 20% instruction laboratory auxiliary allotment.

b. For Phase III (20,000 enrollment) similar to the square feet per F.T.E. staff at Urbana-Champaign, excluding specialized research facilities such as Control Systems Laboratory, Betatron, Physical Environment, etc.

b) Procedure

1) The total F.T.E. staff in Urbana-Champaign for the listed curricula was obtained from Bureau of Institutional Research Report 1C for 1958-59.

2) The present 1958-59 total net square feet research laboratory space which was recorded in the Urbana-Champaign 1969 space needs questionnaire was obtained. (Laboratory auxiliary was not included.)

3) The square feet research laboratory space per F.T.E. staff at Urbana-Champaign was then obtained by dividing the two previous figures for all departments having research facilities for the listed curricula.

4) The total number of F.T.E. staff calculated for Chicago Undergraduate Division in 1969 was obtained from Table 3, Column 7.

5) The total number of F.T.E. staff at Chicago Undergraduate Division in 1969 was then multiplied by the square feet research laboratory per F.T.E. staff at Urbana-Champaign in 1958-59 in order to obtain the assumed square feet research space for Chicago Undergraduate Division in 1969.

6) A 40% allowance was made for research laboratory auxiliary space by multiplying the assumed square feet research space figure for Chicago Undergraduate Division in 1969 by .40.

7) The total square feet allowance calculated as outlined above was then reviewed and reduced in Chemistry, Physics, and Theoretical and Applied Mechanics by applying judgment factors.

7. LIBRARY

a) Assumptions

1. The Library will include all disciplines on the campus with no attempt to provide department libraries.

2. Reading room space would be provided for:

   a) 20% of the student enrollment and,
   b) 10% of the faculty.

3. Stack space should be provided to accommodate*:

   a) For 6000 students in 1963
      125,000 active volumes
      100,000 passive or reserve volumes
      225,000 Total Volumes

   b) For 12,000 students in 1965
      200,000 active volumes
      150,000 passive volumes
      350,000 Total Volumes

   c) For 20,000 students in 1969
      240,000 active volumes
      300,000 passive volumes
      540,000 Total Volumes

* In accordance with revised estimates submitted by Director Downs after consultation with Professor Heiliger & Dr. Flint Purdy (see letter to Professor N. A. Parker of October 13, 1959.)

b) Standards

1) Reading room space for students was calculated for 20% of the student enrollment at 25 Sq. Ft. per student.

2) Reading room space for faculty was calculated for 10% of the academic staff at 50 Sq. Ft. per staff member, (Head count from Table A).

3) An allowance of one Sq. Ft. per each 10 volumes was made for stack space.

4) Library staff space was calculated on the basis of 125 Sq. Ft. per staff.

5) All other facilities are estimated on the basis of experience.

c) Procedure

1) Dean R. B. Downs, in consultation with Professor Heiliger, Chicago Undergraduate Division Librarian, prepared an estimate for library facilities for student enrollments of 6,000, 12,000, 20,000 and 25,000.

2) Adjustments were made for facilities that were duplicated in other calculations such as Student-Faculty Lounges and Seminar Rooms. The sq. ft. figure for reading-room space for faculty was reduced, using the calculated instead of estimated faculty head counts.

8. STUDENT-FACULTY LOUNGES

a) Assumption

1) The students will utilize the library reading rooms, Union lounges, and student-faculty lounges for study purposes.

b) Standards

1) Each academic building will contain an average of 1,000 net sq. ft. allowance for a student-faculty lounge facility.

c) Procedure

1) An analysis was made to determine the amount of student-faculty lounge space that should be provided in academic buildings. This resulted in a standard of 1,000 sq. ft. average per building.

2) The total net square footage of academic building area for the Colleges of Liberal Arts and Sciences, Commerce, Creative Arts, Engineering, and Reserve Officers' Training Corps was then tabulated. (Physical Education Library and Student-Faculty Lounge totals were excluded.)

3) In order that the approximate number of buildings could be estimated, it was assumed that an average of 60,000 net sq. ft. would exist in academic buildings. The total obtained in item 1 was thus divided by 60,000 to obtain the number of buildings.

4) The assumed number of buildings figure was then multiplied by the standard of 1,000 sq. ft. allowance for student-faculty lounge space in academic buildings.

9. GENERAL ADMINISTRATIVE UNITS

a) Assumptions

1) The space requirements for the General Administration Units for the Service Departments will be based on the estimates of equipment and personnel submitted by the administrative units.

2) The Chicago Undergraduate Division is to be a completely self-sufficient campus.

3) Enrollment and curriculum to be as follows:

a. 6,000 students, two-year program.

b. 12,000 students, four-year program, minimal graduate work.

c. 20,000 students, four-year program, some graduate work.

b) Standards

1) Filing

a. Health Service and Admissions and Records. One-half inch file drawer depth for each student.

b. Business Office and University Administration. Each employee generates about 10 cubic feet of records that have to be filed.

c. All other departments. Each employee generates about 5 cubic feet of records that have to be filed.

2) Sq. Ft./Station

Sq. ft. allowances were made per station depending upon the job title of the personnel.

3) Special Areas

Allowances were made for sq. ft. required for special equipment and areas.

c) Procedure

1) Forms comprising the following five sections were distributed among the administrative department heads at Chicago Undergraduate Division:

a. Assumptions

b. Number of personnel required and job titles to be included.

c. Special equipment required.

d. Special areas required.

e. An estimate of the type, extent and length of retention of file materials to be included.

2) These forms were filled out by the following administrative heads at Chicago Undergraduate Division:

a. Admission and Records	Mr. H. E. Temmer
b. Broadcasting	Mr. A. E. Partridge
c. Business Office	Mr. R. E. Porter
d. Dean of Students	Mr. W. O. Brown
e. Health Service	Dr. H. G. Reid, M.D.
f. Legal Counsel	Space Planning Office (HJM)
g. Nonacademic Personnel	Mr. L. D. Harper
h. Publications	Professor A. J. Hartoch
i. Public Information	Mr. S. Handwerker
j. Student Counseling	Mr. P. C. Greene
k. University Administration (Executive Dean)	Dean C. C. Caveny
l. Bureau of Institutional Research	Space Planning Office (HJM)

3) The completed forms were organized into a binder by Mr. R. L. Zander and titled "Preliminary Estimate of Space Requirements for Service Departments--Future Chicago Undergraduate Division" and dated February 20, 1959.

4) This information was then transmitted by Mr. J. V. Edsall to SUA, Inc. to obtain their recommendations of proper space allocation for the administrative units.

5) SUA, Inc. then submitted a report titled "Preliminary Draft--University of Illinois--Chicago Undergraduate Division" dated April 15, 1959, with a section titled "Preliminary Estimates of Space Requirements for Service Departments".

6) The "Summary Table" contained in the above report was used for the General Administrative Space Estimates (1963-65-69) except for Broadcasting.

10. PHYSICAL PLANT DEPARTMENT

a) Assumptions

1) The space estimate is to be based upon the assumptions checked by Mr. John Doak on the "Check List".

b) Standards

1) Other than office facility standards which were used as a guide, all estimates were based upon experience.

c) Procedure

1) A "Check List for Assumptions to determine Manpower Requirements for Operation and Maintenance" was compiled by Mr. Doak on February 6, 1959.

2) From this check list, a manpower and facilities estimate was compiled consisting of four sheets.

Sheet 1 - Summary
Sheet 2 - Basic Data
Sheet 3 - Operations Section
Sheet 4 - Building Maintenance Section Administration-Engineering outside yard area.

This estimate was dated February 18, 1959, and was based on the number of personnel, their basic job classifications, the shop space allocated to each, equipment and storage space used by each of the main divisions.

3) The estimate was transmitted to the following people for comments:

a. SUA, Inc.
b. Mr. H. W. Pearce
c. Professor W. C. Huntington
d. Mr. J. V. Edsall

4) The original estimate was modified slightly as a result of the comments received.

11. UNION

a) Assumptions

Since specific information on site, building schedules, class hour distribution, the development of student activity program interests, etc., has not been finally determined, it was necessary to make certain assumptions in preparing this proposal. It was assumed that:

1) The Chicago Undergraduate Division will serve a commuting student body.

2) The University will be a "day school".

3) The Union will serve the staff as well as the students.

4) A substantial number of classes will be scheduled through the 12:00 noon to 1:00 p.m. period, thereby distributing the peak midday load.

5) This class scheduling will permit a four-times turnover in the Union cafeteria, snack bar and commuters' lunchroom.

6) The cafeteria will serve the noon meal only. The snack bar will be utilized for breakfast and evening meal service.

7) Canteen service will be provided in most of the other buildings.

8) Thirty to thirty-five per cent of the students will bring their own lunch.

9) Small student lounge space will be provided in each of the other buildings, reducing the lounge requirements of the Union.

10) Student locker space will be provided in other building projects where the students attend classes.

11) The Union will house the University Information and Reservations office, the Lost and Found offices, and various student organizations.

12) The Union will not house the University telephone switchboard nor the Alumni offices.

Some facilities will be determined by the location of the University. Partial revision of these estimates might therefore be expected at the time of the final site selection.

c) Procedure

1) A list of assumptions was compiled in a letter from Mr. C. S. Havens to Mr. V. L. Kretschmer dated February 23, 1959.

2) From this assumption list, Mr. V. L. Kretschmer organized a questionnaire titled "University of Illinois Questionnaire for Planning a Union at the Chicago Undergraduate Campus".

The schools responding to this questionnaire were the following:

a. City College of New York

b. Cincinnati

c. Portland State College

d. Wayne University

3) The Union facility estimate for 9,000 student enrollment was determined by:

a. Using the evaluation of the survey of existing urban college unions.

b. Considering the two previous space allocation proposals, proposal No. 1 contained in a letter to Dean C. C. Caveny from Dean W. O. Brown on May 2, 1956, and also a letter from R. L. Zander on May 15, 1956. This proposal was based on an enrollment of 8,000 full-time students. Proposal No. 2 was made by Mr. V. L. Kretschmer on March 7, 1957, and was also based on an enrollment of 8,000 full-time students.

c. A review of the operating and maintenance costs and policies of the Illini Union on the Urbana campus.

Proposal No. 3 was developed by Mr. V. L. Kretschmer and Mr. C. C. Leverenz. This proposal which is known as Union stage one, was used as the estimate for University Phase I (1963-6,000 enroll) and Phase II (1965-12,000 enroll) estimate. This proposal is based on an enrollment of 9,000 full-time students.

A rough estimate was developed for Union stage two, or University Phase III (1969-20,000 enroll) by Mr. C. C. Leverenz, J. V. Edsall, and H. J. Miszkowicz.

12. ARMORY-AUDITORIUM

a) Assumptions

1) The Armory-Auditorium will be used for the following functions:

a. Reserve Officers' Training Corps Drill

b. Assembly activities

c. Physical Education activities in addition to those conducted in the Gymnasium for men and women.

2) The Armory-Auditorium will be constructed in the last Phase (III).

b) Standards

1) The sq. ft. required for Type A-1 and Type A-2 functions as estimated by the Buildings and Fields Committee were used.

c) Procedure

1) The Armory-Auditorium sq. ft. figure estimate was obtained by using the Building and Fields Committee report "Preliminary Recommendations for Space Requirements for Physical Education Athletics and Recreation" (The Chicago Undergraduate Division, Illinois) dated March 30, 1959, as a guide. Reference was made in the report to Page 5, Item 1 - Field House under Specific Indoor Facilities Recommended for Men.

2) Architectural drawings of the Field House at Colorado University were used to determine the ratio of net-to-gross areas to allow for the Armory-Auditorium facility.

13. LAND-PLAYING FIELDS

a) Assumptions

1) The list of outdoor facilities required the size of each, and the number required was developed to serve the following enrollments:

ENROLLMENT		MEN	WOMEN	TOTAL
6,000		4,450	1,550	6,000
9,000	lower	4,800	1,700	6,500
	upper	1,950	550	2,500
				9,000
12,000	lower	4,850	1,950	6,800
	upper	4,050	1,150	5,200
				12,000
20,000	lower	7,550	2,950	10,500
	upper	7,200	2,300	9,500
				20,000

b) Standards

1) The space estimate is based on the standard that 100.6 sq. ft. per student will provide the acreage needed for outdoor stations, athletics and recreation.

c) Procedure

1) The Building and Fields Committee Report, dated March 30, 1959, Page 1, was used as a reference.

2) The total sq. ft. land estimate for 1969 was detailed for Specific Outdoor facilities recommended for men and women.

14. LAND-PHYSICAL PLANT OUTSIDE YARD AREA

a) Assumptions

1) The site will be suburban.

2) The steam plant will be for heating only.

3) Fuel for heating plant will be a combination of coal and gas.

4) Trash and garbage disposal will be by Operations and Maintenance staff.

5) Storeroom operation will be by Operations and Maintenance staff and policy will provide for quantity purchases and warehousing.

6) Renewal and replacements, minor construction and alterations will be by Operations and Maintenance staff.

7) Maintenance of on-campus streets and walks, including repair, cleaning and snow removal will be by Operations and Maintenance staff.

8) Mobile equipment for general University use to be serviced and maintained will include:

a. 10 passenger cars and station wagons

b. 4 trucks and buses. (Check list item No. 29.)

9) Greenhouse facilities will not be operated or maintained.

b) Standards

1) The estimates were based upon experience.

c) Procedure

1) Mr. Doak compiled the estimate of space required for Outside Yard Area for the following functions:

a. Trash Collection Depot

b. Employee Parking

c. Car Pool Storage

d. Stores

e. Service Yard

f. Heating Plant

15. LAND PARKING

a) Assumptions

1) Parking facilities will be provided in a ratio of:
1 parking space for every 4 students
1 parking space for every 1.33 academic staff members
1 parking space for every 2 non-academic staff members

b) Standards

1) A parking space is to be 300 sq. ft. per station.

c) Procedure

1) The student and staff head counts were tabulated excluding Physical Plant staff. (parking will be provided in Physical Plant area for this staff.)

2) The number of parking spaces to be provided was obtained by applying the ratio of parking space to students and staff to the appropriate total enrollment and staff head count.

3) The total sq. ft. required for parking was obtained by multiplying the number of parking spaces by a 300 sq. ft. allowance for each space.

4) The sq. ft. figure was transformed into acres.

16. LAND ACADEMIC AND SERVICE BUILDINGS

a) Assumptions

1) The per cent of net-to-gross will be 60% for all buildings except the following that will house these functions:

a. Physical Education	70%
b. Physical Plant	80%
c. Armory-Auditorium	90%

2) The per cent building land coverage will be 25%.

3) The buildings will consist of 4 stories and a basement.

b) Procedure

1) The total net sq. ft. for academic and service buildings was obtained from Table D.

2) The per cent of net-to-gross sq. ft. allowance for various types of functions was determined. All space was assumed to have 60% net-to-gross except for the following:

Physical Education	70%
Physical Plant	80%
Armory-Auditorium	90%

3) The gross sq. ft. was obtained by multiplying the respective net sq. ft. figure by the per cent net-to-gross for that function.

4) The total gross sq. ft. thus obtained was multiplied by the Land Coverage Factor of .8. This factor was obtained by assuming that the buildings would cover 25% of the land and that the buildings would consist of 5 floors (4 stories and basement).

$$\frac{\text{Gross sq. ft.}}{4} \text{ or gross sq. ft. } \times .8 = \text{Total sq. ft. land required for buildings.}$$

5) The gross sq. ft. figure was transformed into acres.

APPENDIX C

SOURCES OF INFORMATION

SOURCES OF INFORMATION

A. General References

1. "Report of the University Committee on a Four-Year Program for the Chicago Undergraduate Division," dated December 12, 1958. (DANGERFIELD REPORT)

2. Report - "Long-Range Building Program for the College of Engineering of the University of Colorado including Procedures Applicable to Other Colleges" by W. C. Huntington, dated May 1, 1958.

3. "Report to the University of Illinois -- Analysis of Space Standards" dated February 9, 1959. Prepared by SUA Inc.

4. Report - "Analysis of Sites for the Campus of the Chicago Undergraduate Division, University of Illinois," dated October, 1958. Prepared for the University of Illinois by Real Estate Research Corporation with assistance of Skidmore, Owings, and Merrill, Naess and Murphy, Sargent and Lundy.

5. Report - "Preliminary Estimated Space Requirements -- Two-Year Program to 1969 - 6,000 students -- Chicago Undergraduate Division," dated November 1, 1957. Prepared by J. V. Edsall, R. L. Zander, and H. J. Miszkowicz.

6. Memorandum "Space and Cost Estimates for the Future Development of the Chicago Undergraduate Division," dated December 24, 1957 and revised December 30, 1957. Compiled by Physical Plant Department (R. L. Zander Report). (Based on 6,000 enrollment -- Two-Year Program.)

7. Memorandum "Chicago Undergraduate Division Estimate of Gross Square Feet Required for 15,000 Student Enrollment -- Four-Year Program," dated May 6, 1958. Compiled by Physical Plant Department (C. S. Havens, J. V. Edsall, and H. J. Miszkowicz). (Used by Skidmore, Owings, and Merrill in Real Estate Research Corporation Report.)

8. Annual Report - "Central Office in the Use of Space." (Urbana-Champaign) Academic Year 1957-58. Prepared by Professor H. D. Bareither.

9. Report - "Comparison of Two Reports on the Future Development of the Chicago Undergraduate Division of the University of Illinois," dated April 27, 1959. Prepared by Kenneth Eells (Assistant Director, Test Services -- Student Counseling Service -- Chicago Undergraduate Division).

10. Report - "A Concept for the University of Illinois in Chicago-Lincoln Campus," dated May 1, 1959. (A report of the committee on Curricular Expansion created by the Senate of the Chicago Undergraduate Division of the University of Illinois.)

11. Bureau of Institutional Research Table dated February 11, 1959, prepared by Mr. E. F. Potthoff titled "Breakdown of Projected Enrollments in the Chicago Undergraduate Division of the University of Illinois on a Class and Sex Basis, Fall Semester, 1963 to 1969."

B. Curriculum References

1. Bureau of Institutional Research Special Report 1R Class Card Summaries. (Transmitted in a letter from Mr. G. J. Froehlich to Professor N. A. Parker, dated January 15, 1959.) Contains Urbana-Champaign Semester I, 1958-1959 student registration data, summarized by course number and department, generated by students enrolled in certain listed curricula.

2. Chicago Undergraduate Division course recommendation for Chicago Undergraduate Division -- Four-Year Program, dated January 28, 1959. (Original Forms.)

3. Urbana-Champaign -- Course recommendations for Chicago Undergraduate Division -- Four-Year Program, dated January 28, 1959. (Original Forms.)

4. Time Table -- First Semester, 1958-1959. Bulletin-University of Illinois Urbana Departments.

5. Time Table -- Second Semester 1958-1959. Bulletin-University of Illinois Urbana Departments.

6. Undergraduate Study (Catalog) 1958-1959. University of Illinois Bulletin.

7. Catalog -- University of Illinois -- Chicago Undergraduate Division 1958-1959.

8. Graduate College (Catalog). University of Illinois Bulletin 1958-1960.

9. Course Analysis Book. Vol. 1 - College of Liberal Arts and Sciences (Forms A, B, C, and D). Prepared from course recommendation forms.

10. Course Analysis Book.
Vol. 2 - College of Commerce
College of Engineering
Division of Architecture
Division of Physical Education
Military Science

11. August, 1959 Assumed Educational Program Basic Course Data.

C. Academic References

1. Physical Education

a) Letter from C. S. Havens to Dean S. C. Staley dated February 23, 1959. (Contains list of basic assumptions.)

b) Draft of memorandum "Preliminary Recommendations for Space Requirements for Physical Education, Athletics and Recreation (The Chicago Undergraduate Division)" dated March 30, 1959. Compiled by Building and Fields Committee.

2. Library

a) Letter from SUA Inc. to J. V. Edsall dated February 5, 1959, contains questions pertaining to Library Personnel, Storage Reading Rooms and Study Areas, Audio-Visual Services, Bindery and Miscellaneous.

b) Letter from C. S. Havens to R. B. Downs dated February 23, 1959. (Contains basic assumptions.)

c) Letter from Dean R. B. Downs to Mr. C. S. Havens dated March 5, 1959. (Contains estimate of library space for 6,000-9,000-12,000-20,000 student enrollments.)

d) Draft of report of SUA Inc. Space standards for the library at the new Chicago campus, dated May 1, 1959. (Transmitted in a letter from SUA Inc. to J. V. Edsall.)

e) Letter from Director Downs to Professor N. A. Parker dated October 13, 1959.

D. Service Departments

1. General Administrative Units

a) Letter from SUA Inc. to H. O. Farber dated January 28, 1959. (Contains organization and basic assumptions for General Administrative Units.)

b) Bound forms of "Preliminary Estimate of Space Requirements for Service Departments Future Chicago Undergraduate Division", dated February 20, 1959. (Prepared by J. V. Edsall and R. L. Zander.) (Used by SUA Inc. to complete their estimate for General Administrative Units.

c) Letter from J. V. Edsall to SUA Inc. dated February 24, 1959. Transmits copy of bound forms dated February 20, 1959.

d) Report "Preliminary Draft-University of Illinois Chicago Undergraduate Division," dated April 15, 1959. (Compiled by SUA Inc.) Contains:

1) Physical Plant Estimate Review

2) General Administrative Units Estimate (Except Broadcasting)

2. Physical Plant

a) Letter from J. Doak to J. V. Edsall dated January 29, 1959. (Contains breakdown of Operations and Maintenance employees on the Urbana campus by sections and principal classification for November 1958.)

b) Letter from SUA to J. V. Edsall dated February 4, 1959. (Letter asks for detail.)

c) Letter from Mr. J. Doak to Mr. C. S. Havens dated February 18, 1959. (Contains manpower and facility requirements for 8,000-12,000-20,000 student enrollments.)

d) Letter from J. V. Edsall to C. S. Havens dated February 20, 1959. (Contains detailed estimate for Space Planning Office for 8,000-12,000-20,000 student enrollment.)

e) Letter from C. S. Havens to H. W. Pearce dated February 24, 1959. Contains:

1) Check list of assumptions used as a basis for estimating Physical Plant needs marked in pencil with Doak's notes.

2) Estimate of Physical Plant space for each of the enrollment levels.

f) Letter from J. V. Edsall to SUA Inc., dated February 26, 1959. (Transmits J. Doak's estimate for comment and review.)

g) Letter from J. V. Edsall to Professor W. C. Huntington dated February 27, 1959. (Contains check list and estimate of Physical Plant Space.)

h) Letter from J. Doak to H. W. Pearce dated April 7, 1959. (Contains reply to H. W. Pearce's letter of April 3, 1959 commenting on J. Doak's estimate of February 18, 1959.)

i) Letter from H. W. Pearce to C. S. Havens dated April 10, 1959. (Contains H. W. Pearce's comments on J. Doak's Physical Plant Space Estimate.)

j) Letter from Mr. C. S. Havens to Mr. J. V. Edsall dated April 13, 1959. (Contains sq. ft. estimate for Space Planning Office.)

k) Letter from Mr. C. S. Havens to Mr. J. V. Edsall dated April 17, 1959. (Contains addition of sq. ft. to J. Doak's original estimate.)

3. Union

a) Letter from SUA Inc. to J. V. Edsall dated February 2, 1959. (Contains list of assumptions for Union facility as stated in a meeting between V. L. Kretschmer and C. C. Leverenz of the University of Illinois, and Mr. Schroeder of SUA Inc., on January 27, 1959.)

b) Letter from C. S. Havens to V. L. Kretschmer dated February 23, 1959. (Contains basic assumptions.)

c) Letter from C. S. Havens to N. A. Parker dated April 17, 1959. (Contains a copy of letter and questionnaire filled out by Portland State College.)

d) Letter from C. C. Leverenz to C. S. Havens and V. L. Kretschmer dated April 22, 1959. (Contains sq. ft. estimate for Union-Stage one -- 9,000 student enrollment.)

4. Armory-Auditorium

   a) Letter from SUA, Inc. to J. V. Edsall dated February 3, 1959. Contains questions pertaining to:

      1) Reserve Officers' Training Corps drill, offices, teaching space, firing range, storage.

      2) Auditorium

      3) Athletics

   b) Floor Plan -- Field House -- University of Colorado, Boulder, Colorado. Sheet No. 2 dated October 7, 1935. (Used to determine % net to gross for Armory-Auditorium Structure.)

5. Parking

   a) Letter and Report to Mr. C. S. Havens from G. W. Bartow and Associates, dated November 19, 1959.

E. Chicago Undergraduate Division Staff Letters of Comment to C. S. Havens Letter to Dean Caveny of July 2, 1959

1. Library

   Hailiger Letter to Caveny dated July 17, 1959

2. General Administration

   a) Admissions and Records
      Temmer Note to Caveny dated July 20, 1959

   b) Dean of Students
      Brown Letter to Caveny dated July 29, 1959

   c) Health Service
      Reid Letter to Caveny dated July 20, 1959

   d) Non-Academic Personnel
      Harper Letter to Caveny dated July 24, 1959

   e) Publications
      Hartock Letter to Caveny dated July 28, 1959

   f) Public Information
      Handwerker Letter to Caveny dated

   g) Student Counseling Service
      Greene Letter to Caveny dated July 30, 1959

   h) Bureau of Institutional Research
      Eells Note to Caveny dated July 23, 1959

3. Physical Plant Department

   Zander Note to Caveny dated July 29, 1959
   (Building and Land)

4. Union

   Brown Letter to Caveny dated July 29, 1959

5. Armory - Auditorium

   Jones Letter to Caveny dated August 3, 1959
   (No comments from Major Crumpacker who was on leave)

F. Chicago Undergraduate Division and Urbana-Champaign Staff Letter of Comment on Second Preliminary Report (August, 1959) Based on A.E.P.

1. President David D. Henry (August 18, 1959 to N. A. Parker)
   Teletorium and Board of Trustees Room

2. Dean H. W. Bailey (LAS) (September 17, 1959 to J. V. Edsall)
   Staff Head Count, LAS Administration, Space and Number of Lecture Rooms and Class Rooms

3. Director E. F. Potthoff (September 22, 1959 to N. A. Parker)
   Agreement on FTE Staff Figure

4. Professor E. B. McNeil (Chairman, Future Planning Committee of Physics Department - Chicago Undergraduate Division) (September 23, 1959 to N. A. Parker)
   Physics Department Data - Catalog Information, Section Size, Special Facilities, Lecture Room Size

5. Dean C. M. Allen (September 24, 1959 to J. V. Edsall and N. A. Parker)
   Questions Inclusion of Education Department in the College of LAS

6. Chicago Undergraduate Division Senate Subcommittee on Future Planning (Per E. B. McNeil) (September 25, 1959 to N. A. Parker)
   Comments on Use of Catalog Information, Special Facilities for Internal Use Such as a Computer Center, Radioisotope Handling, Theater or Assembly, Lounges, and Expansion of Research and Services.

7. Dean H. W. Bailey (September 25, 1959 to J. V. Edsall)
   Table Showing Percentage of Upper and Lower Division Course Registration, Urbana Fall 1957-1958 in LAS Curricula

8. R. B. Downs (October 13, 1959 to N. A. Parker)
   Contains Revised Volume Estimates

G. Minutes of Meetings Pertaining to A.E.P. Report (August, 1959)

1. September 25, 1959 (By R. L. Zander) Chicago Undergraduate Division Staff

2. September 25, 1959 (By Caveny Sec.) Chicago Undergraduate Division Staff

3. September 28, 1959 (By R. L. Zander) Revised Physical Plant Land Estimate

APPENDIX - D

STUDIES OF ADMINISTRATIVE OFFICES

1963 - 1965 - 1969

TABLE 4 - COLLEGE ADMINISTRATIVE OFFICES (1963-1965-1969)

	1. Dean's Office Sq. St.	2. Administrative Assistant's Offices No.	Size	Sq. Ft.	3. Conference Room Sq. Ft.	4. Clerical Space No.	Sq. Ft.	5. Reception Area Sq. Ft.	File, Work & Storage Space (35% of Cols. 1-5) Sq. Ft.	Total Administrative Office Space Sq. Ft.
1. College of Liberal Arts and Sciences	200	3	150	450	300	6	480	200	570	2200
2. College of Commerce and Business Administration	200	1	150	150	300	4	320	200	410	1580
3. College of Engineering	200	2	150	300	300	5	400	200	490	1890
4. College of Creative Arts and Sciences	200	1	150	150	300	4	320	200	410	1580
5. College of Physical Education	200	1	150	150	300	4	320	200	410	1580
Total "University" (1963-1965-1969)	1000	8	--	1200	1500	23	1840	1000	2290	8830

TABLE 5 - DEPARTMENT ADMINISTRATIVE OFFICES (1963-1965-1969)

		1. Dept. Head Office Sq. Ft.	2. Administrative Assistant's Office* No.	2. Sq. Ft.	3. Conference-Seminar Room Sq. Ft.	4. Clerical Space** No.	4. Sq. Ft.	5. Reception Area Sq. Ft.	6. File Work & Storage Space 35% of Col. 1-5. Sq. Ft.	7. Total Administrative Office Space Sq. Ft.
	COLLEGE OF LIBERAL ARTS AND SCIENCES									
1.	Biology	150	2	300	300	5	400	150	455	1755
2.	Chemistry	150	1	150	300	4	320	150	375	1445
3.	Economics	150	-	---	300	2	160	150	266	1026
4.	English	150	2	300	300	7	560	150	511	1971
5.	French	150	-	---	300	2	160	150	266	1026
6.	Geography	150	-	---	300	1	80	150	238	918
7.	Geology	150	-	---	300	1	80	150	238	918
8.	German	150	-	---	300	1	80	150	238	918
9.	History	150	-	---	300	2	160	150	266	1026
10.	Home Economics	150	-	---	300	1	80	150	238	918
11.	Mathematics	150	2	300	300	5	400	150	455	1755
12.	Philosophy	150	-	---	300	1	80	150	238	918
13.	Psychology	150	-	---	300	2	160	150	266	1026
14.	Political Science	150	-	---	300	1	80	150	238	918
15.	Soc. and Anthro.	150	-	---	300	1	80	150	238	918
16.	Spanish	150	-	---	300	1	80	150	238	918
17.	Speech	150	-	---	300	1	80	150	238	918
18.	Russian	150	-	---	300	1	80	150	238	918
19.	Classics	150	-	---	300	1	80	150	238	918
20.	Education	150	-	---	300	2	160	150	266	1026
21.	Library Science	150	-	---	300	1	80	150	238	918
	TOTAL COLLEGE	3150	7	1050	6300	43	3440	3150	5982	23072
	COLLEGE OF COMMERCE & BUSINESS ADMIN.									
22.	Accountancy	150	-	---	300	2	160	150	266	1026
23.	Finance	150	-	---	300	1	80	150	238	918
24.	Marketing	150	-	---	300	1	80	150	238	918
25.	Management	150	-	---	300	1	80	150	238	918
	TOTAL COLLEGE	600	-	---	1200	5	400	600	980	3780

		1. Dept. Head Office Sq. Ft.	2. Administrative Assistant's Office* No.	2. Sq. Ft.	3. Conference Seminar Room Sq. Ft.	4. Clerical Space** No.	4. Sq. Ft.	5. Reception Area Sq. Ft.	6. File Work & Storage Space 35% of Col. 1-5. Sq. Ft.	7. Total Administrative Office Space Sq. Ft.
	COLLEGE OF ENGINEERING									
26.	Chemical Engg.	150	-	---	300	1	80	150	238	918
27.	Civil Engg.	150	1	150	300	3	240	150	346	1336
28.	Electrical Engg.	150	1	150	300	4	320	150	375	1445
29.	Mechanical Engg.	150	1	150	300	4	320	150	375	1445
30.	Physics	150	1	150	300	3	240	150	346	1336
	TOTAL COLLEGE	750	4	600	1500	15	1200	750	1680	6480
	COLLEGE OF CREATIVE ARTS									
31.	Architecture	150	1	150	300	3	240	150	346	1336
32.	Art and Music	150	-	---	300	2	160	150	266	1026
	TOTAL COLLEGE	300	1	150	600	5	400	300	612	2362
	COLLEGE OF PHYSICAL EDUCATION									
33.	P. E. for Men	150	-	---	300	3	240	150	294	1134
34.	Recreation	150	-	---	300	1	80	150	238	918
35.	P. E. for Women	150	-	---	300	2	160	150	266	1026
	TOTAL COLLEGE	450	-	---	900	6	480	450	798	3078
	RESERVE OFFICERS TRAINING CORPS									
36.	Military Science	150	-	---	300	1	80	150	238	918
	TOTAL CORPS	150	-	---	300	1	80	150	238	918
	TOTAL UNIVERSITY	5400	12	1800	10800	75	6000	5400	10290	39690

*Based on F.T.E. Teaching Staff for 1969
One Administrative Assistant required for 50 to 100 FTE Staff.
Two Administrative Assistants required for over 100 FTE Staff.

**Based on F.T.E. Teaching Staff for 1969
One Secretary for each Department Head plus 20 FTE Staff.
One additional clerk for each Administrative Assistant plus 20 FTE Staff.
One additional clerk for each additional 30 FTE Staff.

APPENDIX - E

STUDIES OF 1963 ACADEMIC SPACE REQUIREMENTS

TABLE 6 - TEACHING STAFF OFFICES (1963)

		FTE Staff Required 6000 2-year 1963	FTE Senior Staff* Offices for 1963			FTE Junior Staff** Offices for 1963			FTE Teaching Staff Offices For 1963-Total	
			No.	Size	Sq. Ft.	No.	Size ***	Sq. Ft.	No.	Sq. Ft.
	COLLEGE OF LIBERAL ARTS & SCIENCES									
1.	Biology	38	12	150	1800	13	150	1950	25	3750
2.	Chemistry	50	16		2400	17		2550	33	4950
3.	Economics	14	4		600	5		750	9	1350
4.	English	74	24		3600	25		3750	49	7350
5.	French	11	3		450	4		600	7	1050
6.	Geography	4	2		300	1		150	3	450
7.	Geology	6	2		300	2		300	4	600
8.	German	14	4		600	5		750	9	1350
9.	History	12	4		600	4		600	8	1200
10.	Home Economics	7	3		450	2		300	5	750
11.	Mathematics	51	17		2550	17		2550	34	5100
12.	Philosophy	3	1		150	1		150	2	300
13.	Psychology	6	2		300	2		300	4	600
14.	Political Science	3	1		150	1		150	2	300
15.	Sociology & Anthropology	6	2		300	2		300	4	600
16.	Spanish	4	2		300	1		150	3	450
17.	Speech	5	1		150	2		300	3	450
18.	Russian	2	2		300	0		-	2	300
19.	Classics	1	1		150	0		-	1	150
20.	Education	2	2		300	0		-	2	300
21.	Library Science	2	-		-	1		150	1	150
	TOTAL COLLEGE	315	105		15,750	105		15,750	210	31,500
	COLLEGE OF COMMERCE & BUSINESS ADMIN.									
22.	Accountancy	10	2	150	300	4	150	600	6	900
23.	Finance	-	-	-	-	-	-	-	-	-
24.	Marketing	1	1		150	0		-	1	150

E 1

		FTE Staff Required 6000 2-Year 1963	FTE Senior Staff* Offices for 1963			FTE Junior Staff** Offices for 1963			FTE Teaching Staff Offices For 1963-Total	
			No.	Size	Sq. Ft.	No.	Size ***	Sq. Ft.	No.	Sq. Ft.
	COLLEGE OF COMMERCE & BUSINESS ADMIN. (Cont.)									
25.	Management	2	2		300	0		-	2	300
	TOTAL COLLEGE	13	5		750	4		600	9	1350
	COLLEGE OF ENGINEERING									
26.	Chemical Engineering	0	-	150	-	-	150	-	-	-
27.	Civil Engineering	8	2		300	3		450	5	750
28.	Electrical Engineering	2	2		300	0		-	2	300
29.	Mechanical Engineering	23	7		1050	8		1200	15	2250
30.	Physics	23	7		1050	8		1200	15	2250
	TOTAL COLLEGE	56	18		2700	19		2850	37	5550
	COLLEGE OF CREATIVE ARTS									
31.	Architecture	10	4		300	3		600	6	900
32.	Art and Music	10	4		600	3		450	7	1050
	TOTAL COLLEGE	20	8		900	6		1050	14	1950
	COLLEGE OF PHYSICAL EDUCATION									
33.	P.E. for Men	21	7		1050	7		1050	14	2100
34.	Recreation	3	1		150	1		300	3	450
35.	P.E. for Women	5	1		150	2		300	3	450
	TOTAL COLLEGE	29	9		1350	10		1650	19	3000
	RESERVE OFFICERS TRAINING CORPS									
36.	Military Science	2	2		300	0		0	2	300

	FTE Staff Required 6000 2-Year 1963	FTE Senior Staff* Offices for 1963			FTE Junior Staff** Offices for 1963			FTE Teaching Staff Offices for 1963-Total	
		No.	Size	Sq. Ft.	No.	Size ***	Sq. Ft.	No.	Sq. Ft.
RESERVE OFFICERS TRAINING CORPS (Cont.)									
TOTAL CORPS	2	2		300	0		0	2	300
TOTAL UNIVERSITY	435	147		21,750	144		21,900	291	43,650

* Senior Staff - Professor and Associate Professor
** Junior Staff - Non-Tenure Staff; Assistant Professor, Instructor and Assistant
*** Assumes two - station offices

TABLE 7 - SUMMARY OF CLASSROOM CONTACT CLOCK HOURS BY DEPARTMENT AND BY SUGGESTED CAPACITY
1963 - 6,000 STUDENT ENROLLMENT

	No. of Stations / Area in Sq. Ft.	Contact Clock Hrs. By Suggested Capacity 15 (300)	30 (450)	45 (630)	60 (780)	125 (1,250)	250 (2,250)	Total Number of Contact Clock Hrs.
	COLLEGE OF LIBERAL ARTS AND SCIENCES							
1.	Biology	14	3	3	-	26	2	48
2.	Chemistry	7	200	6	-	12	20	245
3.	Economics	3	116	-	-	-	9	128
4.	English	213	566	50	3	-	1	833
5.	French	7	113	-	-	-	-	120
6.	Geography	6	21	-	2	2	-	31
7.	Geology	2	19	-	-	3	-	24
8.	German	9	140	-	-	-	-	149
9.	History	-	74	2	2	5	8	91
10.	Home Economics	5	34	3	2	2	-	46
11.	Mathematics	6	621	-	-	-	-	627
12.	Philosophy	4	4	15	2	-	-	25
13.	Psychology	2	28	3	-	-	6	39
14.	Political Science	5	-	19	-	-	-	24
15.	Soc. and Anthro.	12	36	-	-	8	-	56
16.	Spanish	16	40	-	-	-	-	56
17.	Speech	6	48	-	-	-	-	54
18.	Russian	4	8	-	-	-	-	12
19.	Classics	17	6	-	-	-	-	23
20.	Education	9	7	-	-	1	-	17
21.	Library Science	-	-	10	-	-	-	10
	TOTAL CONTACT CLOCK HRS.	347	2,084	111	11	59	46	2,658
	TOTAL NO. OF ROOMS REQ.	11	57	5	-	2	1	76
	TOTAL SQ. FT. REQUIRED	3,300	25,650	3,150	-	2,500	2,250	36,850
	COLLEGE OF COMMERCE & BUSINESS ADMINISTRATION							
22.	Accountancy	-	99	-	-	-	-	99
23.	Finance	3	-	-	-	-	-	3

	No. of Stations / Area in Sq. Ft.	Contact Clock Hrs. By Suggested Capacity 15 (300)	30 (450)	45 (630)	60 (780)	125 (1,250)	250 (2,250)	Total Number of Contact Clock Hrs.
	COLLEGE OF COMMERCE & BUSINESS ADMINISTRATION (Cont.)							
24.	Marketing	-	9	-	-	-	-	9
25.	Management	-	9	-	-	-	-	9
	TOTAL CONTACT CLOCK HRS.	3	117	-	-	-	-	120
	TOTAL NO. OF ROOMS REQ.	-	3	-	-	-	-	3
	TOTAL SQ. FT. REQUIRED	-	1,350	-	-	-	-	1,350
	COLLEGE OF ENGINEERING							
26.	Chemical Engg.	3	-	-	-	-	-	3
27.	Civil Engg.	5	52	-	-	-	-	57
28.	Electrical Engg.	3	-	-	-	3	-	6
29.	Mechanical Engg.	7	10	-	-	-	-	17
30.	Physics	9	93	-	-	14	3	119
	TOTAL CONTACT CLOCK HRS.	27	155	-	-	17	3	202
	TOTAL NO. OF ROOMS REQ.	1	4	-	-	-	1	6
	TOTAL SQ. FT. REQUIRED	300	1,800	-	-	-	2,250	4,350
	COLLEGE OF CREATIVE ARTS							
31.	Architecture	-	5	13	-	1	1	20
32.	Art and Music	18	8	3	3	-	-	32
	TOTAL CONTACT CLOCK HRS.	18	13	16	3	1	1	52
	TOTAL NO. OF ROOMS REQ.	1	1	-	1	-	-	3
	TOTAL SQ. FT. REQUIRED	300	450	-	780	-	-	1,530
	COLLEGE OF PHYSICAL EDUCATION							
33.	P. E. for Men	8	14	-	-	-	-	22
34.	Recreation	2	15	-	-	-	-	17
35.	P. E. for Women	-	8	-	-	-	-	8
	TOTAL CONTACT CLOCK HRS.	10	37	-	-	-	-	47
	TOTAL NO. OF ROOMS REQ.	1	2	-	-	-	-	3
	TOTAL SQ. FT. REQUIRED	300	900	-	-	-	-	1,200

	Contact Clock Hrs. By Suggested Capacity						
No. of Stations	15	30	45	60	125	250	Total Number of Contact Clock Hrs.
Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	
RESERVE OFFICERS TRAINING CORPS							
36. Military Science	-	22	-	-	-	-	22
TOTAL CONTACT CLOCK HRS.	-	22	-	-	-	-	22
TOTAL NO. OF ROOMS REQ.	-	1	-	-	-	-	1
TOTAL SQ. FT. REQUIRED	-	450	-	-	-	-	450
TOTAL UNIVERSITY							
TOTAL CONTACT CLOCK HRS.	405	2,428	127	14	77	50	3,101
TOTAL NO. OF ROOMS REQ.	14	68	5	1	2	2	92
TOTAL SQ.FT. REQUIRED	4,200	30,600	3,150	780	2,500	4,500	45,730

TABLE 8 - NUMBER OF CLASSROOMS BY DEPARTMENT AND BY SUGGESTED CAPACITY Sheet 1 of 2
1963 - 6,000 STUDENT ENROLLMENT

		Number of Rooms by Suggested Capacity						Total
	No. of Stations	15	30	45	60	125	250	Number
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	of Rooms
	COLLEGE OF LIBERAL ARTS AND SCIENCES							
1.	Biology	1	-	-	-	1	-	2
2.	Chemistry	-	5	-	-	1	1	7
3.	Economics	-	3	-	-	-	-	3
4.	English	2	15	1	-	-	-	18
5.	French	-	3	-	-	-	-	3
6.	Geography	1	1	-	-	-	-	2
7.	Geology	1	1	-	-	-	-	2
8.	German	1	3	-	-	-	-	4
9.	History	-	2	-	-	-	-	2
10.	Home Economics	1	1	-	-	-	-	2
11.	Mathematics	-	17	-	-	-	-	17
12.	Philosophy	1	-	1	-	-	-	2
13.	Psychology	-	1	1	-	-	-	2
14.	Political Science	-	-	1	-	-	-	1
15.	Soc. and Anthro.	1	1	-	-	-	-	2
16.	Spanish	1	1	-	-	-	-	2
17.	Speech	-	1	-	-	-	-	1
18.	Russian	-	1	-	-	-	-	1
19.	Classics	1	-	-	-	-	-	1
20.	Education	-	1	-	-	-	-	1
21.	Library Science	-	-	1	-	-	-	1
	TOTAL NO. OF ROOMS	11	57	5	-	2	1	76
	TOTAL SQ. FT. REQ.	3,300	25,650	3,150	-	2,500	2,250	36,850
	COLLEGE OF COMMERCE & BUSINESS ADMIN.							
22.	Accountancy	-	2	-	-	-	-	2
23.	Finance	-	-	-	-	-	-	-
24.	Marketing	-	1	-	-	-	-	1
25.	Management	-	-	-	-	-	-	-
	TOTAL NO. OF ROOMS	-	3	-	-	-	-	3
	TOTAL SQ. FT. REQ.	-	1,350	-	-	-	-	1,350

	No. of Stations / Area in Sq. Ft.	Number of Rooms By Suggested Capacity 15 (300)	30 (450)	45 (630)	60 (780)	125 (1,250)	250 (2,250)	Total Number of Rooms
	COLLEGE OF ENGINEERING							
26.	Chemical Eng.	-	-	-	-	-	-	-
27.	Civil Eng.	-	2	-	-	-	-	2
28.	Electrical Eng.	-	-	-	-	-	-	-
29.	Mechanical Eng.	-	1	-	-	-	-	1
30.	Physics	1	1	-	-	-	1	3
	TOTAL NO. OF ROOMS	1	4	-	-	-	1	6
	TOTAL SQ. FT. REQ.	300	1,800	-	-	-	2,250	4,350
	COLLEGE OF CREATIVE ARTS							
31.	Architecture	1	-	-	-	-	-	1
32.	Art and Music	-	1	-	1	-	-	2
	TOTAL NO. OF ROOMS	1	1	-	1	-	-	3
	TOTAL SQ. FT. REQ.	300	450		780			1,530
	COLLEGE OF PHYSICAL EDUCATION							
33.	P. E. for Men	1	-	-	-	-	-	1
34.	Recreation	-	1	-	-	-	-	1
35.	P. E. for Women	-	1	-	-	-	-	1
	TOTAL NO. OF ROOMS	1	2	-	-	-	-	3
	TOTAL SQ. FT. REQ.	300	400	-	-	-	-	1,200
	RESERVE OFFICERS TRAINING CORPS							
36.	Military Science	-	1	-	-	-	-	1
	TOTAL NO. OF ROOMS	-	1	-	-	-	-	1
	TOTAL SQ. FT. REQ.	-	450	-	-	-	-	450
	TOTAL UNIVERSITY							
	TOTAL NO. OF ROOMS	14	68	5	1	2	2	92
	TOTAL SQ. FT. REQUIRED	4,200	30,600	3,150	780	2,500	4,500	45,730

TABLE 9 - CLASSROOM NET SQUARE FEET BY DEPARTMENT AND BY SUGGESTED CAPACITY
1963 - 6,000 STUDENT ENROLLMENT

	No. of Stations / Area in Sq. Ft.	Net Square Feet By Suggested Capacity						Total Net Sq. Ft.
		15 (300)	30 (450)	45 (630)	60 (780)	125 (1,250)	250 (2,250)	
	COLLEGE OF LIBERAL ARTS AND SCIENCES							
1.	Biology	300	-	-	-	1,250		1,550
2.	Chemistry	-	2,250	-	-	1,250	2,250	5,750
3.	Economics	-	1,350	-	-	-	-	1,350
4.	English	600	6,750	630	-	-	-	7,980
5.	French	-	1,350	-	-	-	-	1,350
6.	Geography	300	450	-	-	-	-	750
7.	Geology	300	450	-	-	-	-	750
8.	German	300	1,350	-	-	-	-	1,650
9.	History	-	900	-	-	-	-	900
10.	Home Economics	300	450	-	-	-	-	750
11.	Mathematics	-	7,650	-	-	-	-	7,650
12.	Philosophy	300	-	630	-	-	-	930
13.	Psychology	-	450	630	-	-	-	1,080
14.	Political Science	-	-	630	-	-	-	630
15.	Soc. and Anthro.	300	450	-	-	-	-	750
16.	Spanish	300	450	-	-	-	-	750
17.	Speech	-	450	-	-	-	-	450
18.	Russian	-	450	-	-	-	-	450
19.	Classics	300	-	-	-	-	-	300
20.	Education	-	450	-	-	-	-	450
21.	Library Science	-	-	630	-	-	-	630
	TOTAL NET SQ. FT.	3,300	25,650	3,150	-	2,500	2,250	36,850
	COLLEGE OF COMMERCE & BUSINESS ADMIN.							
22.	Accountancy	-	900	-	-	-	-	900
23.	Finance	-	-	-	-	-	-	-
24.	Marketing	-	450	-	-	-	-	450
25.	Management	-	-	-	-	-	-	-
	TOTAL NET SQ. FT.	-	1,350	-	-	-	-	1,350

		Net Square Feet by Suggested Capacity						Total
	No. of Stations	15	30	45	60	125	250	Net
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	Sq. Ft.
	COLLEGE OF ENGINEERING							
26.	Chemical Eng.	-	-	-	-	-	-	-
27.	Civil Eng.	-	900	-	-	-	-	900
28.	Electrical Eng.	-	-	-	-	-	-	-
29.	Mechanical Eng.	-	450	-	-	-	-	450
30.	Physics	300	450	-	-	-	2,250	3,000
	TOTAL NET SQ. FT.	300	1,800	-	-	-	2,250	4,350
	COLLEGE OF CREATIVE ARTS							
31.	Architecture	300	-	-	-	-	-	300
32.	Art and Music	-	450	-	780	-	-	1,230
	TOTAL NET SQ. FT.	300	450	-	780	-	-	1,530
	COLLEGE OF PHYSICAL EDUCATION							
33.	P. E. for Men	300	-	-	-	-	-	300
34.	Recreation	-	450	-	-	-	-	450
35.	P. E. for Women	-	450	-	-	-	-	450
	TOTAL NET SQ. FT.	300	900	-	-	-	-	1,200
	RESERVE OFFICERS TRAINING CORPS							
36.	Military Science	-	450	-	-	-	-	450
	TOTAL NET SQ. FT.	-	450	-	-	-	-	450
	TOTAL UNIVERSITY NET SQ. FT.	4,200	30,600	3,150	780	2,500	4,500	45,730

TABLE 10 - CALCULATIONS OF INSTRUCTIONAL LABORATORIES
AND AUXILIARY SPACE
1963 - 6,000 STUDENT ENROLLMENT

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
	COURSES OF LIBERAL ARTS AND SCIENCES									
1.	Biology									
a.	Bacteriology	1	4	36	(1	x 50	x 25	x 1.5 =	1,875	) 104
b.	Botany	3	64	36	(2	x 50	x 24	x 1.5 =	3,600	) 100
c.	Entomology	5	4	36	(1	x 50	x 24	x 1.5 =	1,800	) 103
d.	Physiology	6	18	36	(1	x 50	x 24	x 1.5 =	1,800	) 103
		7	16	36	(1	x 50	x 24	x 1.5 =	1,800	) 104
e.	Zoology	12	48	36	(2	x 50	x 24	x 1.5 =	3,600	) 101
		13	44	36	(2	x 50	x 24	x 1.5 =	3,600	) 104
		14	12	24	(1	x 50	x 24	x 1.5 =	1,800	) 132
f.	D.G.S.	13	36	36	(1	x 50	x 24	x 1.5 =	1,800	) 131
	Total Biology				12				21,675	
2.	Chemistry									
a.	Inorganic	14	360	36	(10	x 50	x 20	x 1.5 =	15,000	) 101,102,103, 105,107,109, 110,111
b.	Analytical	15	80	36	(2	x 50	x 20	x 1.5 =	3,000	) 122,124
c.	Organic	16	16	36	(1	x 70	x 20	x 1.5 =	2,100	) 132,133
	Total Chemistry				13				20,100	
3.	Economics	20	3	36	(1	x 30	x 25	x 1.5 =	1,125	) 170,171
	Total Economics				1				1,125	

1	2 Courses	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
4.	English									
a.	Rhet	21	4	36	(1	x 50*	x 10	x 1.25* =	625	) 110,111 Listening Lab for Foreign Students)
	Total English				1				625	
5.	French	23	31	36	(1	x 30*	x 20	x 1.25* =	750	) 101,102,103, 104,113 Listening Lab
	Total French				1				750	
6.	Geology	24	28	36	(1	x 35	x 20	x 1.5 -	1,050	) 101,102
	Total Geology				1				1,050	
7.	German	26	16	36	(1	x 30*	x 20	x 1.25* =	750	) 101,102,103 104,113 Listening Labs
	Total German				1				750	
8.	Home Econ.									
a.	Child Develop	27	6	36	(1	x 50	x 24	x 1.5 =	1,800	) 105
b.	Food Type I	28	9	36	(1	x 50	x 16	x 1.5 =	1,200	) 125,130
c.	Home Furnish.	30	16	36	(1	x 50	x 24	x 1.5 =	1,800	) 160,161
d.	Clothing	31	24	36	(1	x 50	x 20	x 1.5 =	1,500	) 182,184,186
e.	Textile	32	16	36	(1	x 50	x 20	x 1.5 =	1,500	) 183

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
	Total Home Economics				5				7,800	
9.	Psychology	34	2	36	(1	x 40	x 15	x 1.5 =	900	) 135
	Total Psychology				1				900	
10.	Spanish	36	14	36	(1	x 30*	x 20	x 1.25* =	750	) Span. 101, 102,103,104, 113 Ital. 101, 103 Port. 101, 103
	Total Spanish				1				750	
11.	Speech	37	16	36	(1	x 50*	x 20	x 1.25* =	1,250	) 101,105,141 Listening Labs
		38	15	36	([1]No Calculations -		(Classroom	=	2,400	) 151,157,161
							(Scenery Shop	=	2,400	) (No Auxiliary)
							(Costume Shop	=	1,200	) (Theater Type)
	Total Speech				2				7,250	
12.	Russian	39	6	36	(1	x 30*	x 20	x 1.25* =	750	) 101,103 Listening Labs
	Total Russian				1				750	
	TOTAL LAS				40				63,525	

* Indicates Lab Auxiliary Allowance is included in planned station

[1] Size Square Foot Per Station Figure (Listening Labs.)

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. 1.20/.80 =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION										
14.	Management									
a.	Business Educ.	44	10	36	(1	x 30	x 40	x 1.5 =	1,800	) 101,102 Typewriter
		45	10	36	(1	x 30	x 30	x 1.5 =	1,350	) 111,112 Shorthand
	Total Management				2				3,150	
	Total Commerce				2				3,150	
COLLEGE OF ENGINEERING										
15.	Civil Eng.	49	42	36	(2	x 40	x 20	x 1.5 =	2,400	) 105(old course nos.) Drafting Rms.
	Total Civil				2				2,400	
16.	Electrical	89	4	24	(1	x 75	x 20	x 1.5 =	2,250	) 126
				Special Area - 1 Computer Lab Center				=	1,500	
	Total Electrical				2				3,750	
17.	Mechanical									
a.	Foundry	61	15	24	(1	x 150	x 24	x 1.5 =	5,400	) 183
b.	Metal Process and Welding	62	3	24	(1	x 150	x 20	x 1.5 =	4,500	) 184
c.	General Eng. Drafting	69	354	36	(10	x 40	x 22	x 1.5 =	13,200	) 101,102, 107,108
	Total Mechanical				12				23,100	

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
18.	Physics	70	27	24	(1	x 50	x 24	x 1.5 =	1,800	) 101
		71	34	24	(2	x 50	x 24	x 1.5 =	3,600	) 106
		72	64	24	(3	x 50	x 24	x 1.5 =	5,400	) 107,108
						Special Areas				
					1 -	Atomic Physics Lab			(1,500	) 282
					1 -	Electricty & Magnetism Lab			(1,500	) 341,342
						Physics Lecture Rm. Aux.			(1,500	)
						Work Shop			(1,000	)
						Isotopes Lab			(1,000	)
	Total Physics				8				17,300	
	Total Engineering				24				46,550	
COLLEGE OF CREATIVE ARTS										
19.	Architecture	76	131	24	(6	x 60	x 20	x 1.5 =	10,800	) 101,131,132, 133,134
		77	18	24	(1	x 60	x 25	x 1.5 =	2,250	) 172
	Total Architecture				7				13,050	
20.	Art & Music	81	48	24	(2	x 60	x 25	x 1.5 =	4,500	) 181,182, 183,184
		82	36	24	(2	x 60	x 25	x 1.5 =	4,500	) 117,118, 127,129
		83	27	24	(1	x 60	x 25	x 1.5 =	2,250	) 119,185,186
	Life Drawing	84	12	24	(1	x 60	x 25	x 1.5 =	2,250	) 125,126
	Composition	85	18	24	(1	x 60	x 25	x 1.5 =	2,250	) 131,132,141
	Rec. Crafts	87	18	24	(1	x 60	x 25	x 1.5 =	2,250	) 170,171,175
	Music	--	--	--	(1				2,000	) Band, Choral, Orchestra
	Total Art & Music				9				20,000	

1	2	3	4	5	6	7	8	9	10	11
	Course	Lab. Ref. No.	Contact Hours of Labs	Planned Use Hrs/Week	Number of Labs	Planned Station Size Sq.Ft./Sta.	Section Size	20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	Total Net Sq. Ft. Lab & Aux	Courses Included
	Total Creative Arts				16				33,050	
COLLEGE OF PHYSICAL EDUCATION										
21.	Physical Education									
	a. Men	91		(From Building & Field Comm. Report				=	49,000	) (See Footnote a)
	b. Women	92		(From Building & Field Comm. Report				=	24,000	)
	Total Physical Education				2				73,000	
RESERVE OFFICERS TRAINING CORPS										
22.	Military Science									
		92		Storage of Uniforms, weapons, arsenal, books, and office space for property custodian and stores clerk and rifle range. (Does not Include Drill Area)					4,568	
	Total Corps				-				4,568	
	TOTAL UNIVERSITY				84				223,843	

FOOTNOTE (a)

1963
PHYSICAL EDUCATION
INSTRUCTIONAL LABORATORY CALCULATION (NET SQ. FT.)

			Net Sq. Ft.						
	GROUP	FACILITY	TYPE A-1		TYPE A-2		TYPE A-3		TOTALS
A.	Men	1) Gymnasium	14,000 Wood Floor 7,000 Wood Floor		3,500 Wood Floor 2,500 Wood Floor 2,500 Wood Floor 2,500 Wood Floor		3,750 Pool 3,000 Deck		
			(21,000)	+	(11,000)	+	(6,750)	=	(38,750)
		2) Service Areas (4,450 Men x 2.28)							(10,250)
		TOTAL MEN							49,000
B.	Women	1) Gymnasium	14,000 Wood Floor		---		3,750 Pool 3,000 Deck		
			(14,000)	+	---	+	(6,750)	=	(20,750)
		2) Service Areas (1,550 Women x 2.28)							(3,250)
		TOTAL WOMEN							24,000
C.	TOTAL MEN AND WOMEN								73,000

TABLE 11 - SUMMARY OF INSTRUCTIONAL LABORATORIES AND AUXILIARY NET SQUARE FEET BY DEPARTMENT
1963 - 6,000 STUDENT ENROLLMENT

Department	Number of Labs.	Total Net Sq. Ft. Labs.
COLLEGE OF LIBERAL ARTS AND SCIENCES		
1. Biology	12	21,675
2. Chemistry	13	20,100
3. Economics	1	1,125
4. English	1	625
5. French	1	750
6. Geology	1	1,050
7. German	1	750
8. Home Economics	5	7,800
9. Psychology	1	900
10. Spanish	1	750
11. Speech	2	7,250
12. Russian	1	750
TOTAL LAS	40	63,525
COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION		
13. Management	2	3,150
TOTAL COMMERCE	2	3,150
COLLEGE OF ENGINEERING		
14. Civil Engineering	2	2,400
15. Electrical Engineering	2	3,750
16. Mechanical Engineering	12	23,100
17. Physics	8	17,300
TOTAL ENGINEERING	24	46,550
COLLEGE OF CREATIVE ARTS		
18. Architecture	7	13,050
19. Art & Music	9	20,000
TOTAL CREATIVE ARTS	16	33,050
COLLEGE OF PHYSICAL EDUCATION		
20. P. E.	2	73,000
RESERVE OFFICERS TRAINING CORPS		
21. Military Science	-	4,568
TOTAL UNIVERSITY	84	223,843

TABLE 12 - SUMMARY OF NET SQUARE FEET SPACE REQUIREMENTS BY DEPARTMENT
1963 - 6,000 STUDENT ENROLLMENT

	1 Administrative Offices	2 Staff Offices	3 Class Rooms & Seminar Rooms	4 Instructional Laboratories (20% Auxiliary Space)	5 Total Net Sq. Ft.
COLLEGE OF LIBERAL ARTS AND SCIENCES	2,200				2,200
1. Biology	1,755	3,750	1,550	21,675	28,730
2. Chemistry	1,445	4,950	5,750	20,100	32,245
3. Economics	1,026	1,350	1,350	1,125	4,851
4. English	1,971	7,350	7,980	625	17,926
5. French	1,026	1,050	1,350	750	4,176
6. Geography	918	450	750	---	2,118
7. Geology	918	600	750	1,050	3,318
8. German	918	1,350	1,650	750	4,668
9. History	1,026	1,200	900	---	3,126
10. Home Economics	918	750	750	7,800	10,218
11. Mathematics	1,755	5,100	7,650	---	14,505
12. Philosophy	918	300	930	---	2,148
13. Psychology	1,026	600	1,080	900	3,606
14. Political Science	918	300	630	---	1,848
15. Sociology and Anthropology	918	600	750	---	2,268
16. Spanish	918	450	750	750	2,868
17. Speech	918	450	450	7,250	9,068
18. Russian	918	300	450	750	2,418
19. Classics	918	150	300	---	1,368
20. Education	1,026	300	450	---	1,776
21. Library Science	918	150	630	---	1,698
TOTAL COLLEGE	25,272	31,500	36,850	63,525	157,147
COLLEGE OF COMMERCE & BUSINESS ADMIN.	1,580				1,580
22. Accountancy	1,026	900	900	---	2,826
23. Finance	918	---	---	---	918
24. Marketing	918	150	450	---	1,518
25. Management	918	300	---	3,150	4,368
TOTAL COLLEGE	5,360	1,350	1,350	3,150	11,210

	1 Administrative Offices	2 Staff Offices	3 Class Rooms & Seminar Rooms	4 Instructional Laboratories (20% Auxiliary Space)	5 Total Net Sq. Ft.
COLLEGE OF ENGINEERING	1,890				1,890
26. Chemical Engineering	918	---	---	---	918
27. Civil Engineering	1,336	750	900	2,400	5,386
28. Electrical Engineering	1,445	300	---	3,750	5,495
29. Mechanical Engineering	1,445	2,250	450	23,100	27,245
30. Physics	1,336	2,250	3,000	17,300	23,886
TOTAL COLLEGE	8,370	5,550	4,350	46,550	64,820
COLLEGE OF CREATIVE ARTS	1,580				1,580
31. Architecture	1,336	900	300	13,050	15,586
32. Art and Music	1,026	1,050	1,230	20,000	23,306
TOTAL COLLEGE	3,942	1,950	1,530	33,050	40,472
COLLEGE OF PHYSICAL EDUCATION	1,580				1,580
33. P. E. for Men	1,134	2,100	300	49,000	52,534
34. Recreation	918	450	450	---	1,818
35. P. E. for Women	1,026	450	450	24,000	25,926
TOTAL COLLEGE	4,658	3,000	1,200	73,000	81,858
RESERVE OFFICERS TRAINING CORPS					
36. Military Science	918	300	450	4,568	6,236
TOTAL CORPS	918	300	450	4,568	6,236
TOTAL UNIVERSITY	48,520	43,650	45,730	223,843	361,743
% Facility Total is to Total NSF	13.4%	12.1%	12.6%	61.9%	100%

APPENDIX - F

STUDIES OF 1965 ACADEMIC SPACE REQUIREMENTS

TABLE 13 - TEACHING STAFF OFFICES (1965)

		1 F.T.E. Staff Required 12000 4-year 1965	F.T.E. Senior Staff* Offices for 1965			F.T.E. Junior Staff** Offices for 1965			F.T.E. Total Teaching Staff Offices for 1965	
			No.	Size	Sq. Ft.	No.	Size	Sq. Ft.	No.	Sq. Ft.
	COLLEGE OF LIBERAL ARTS AND SCIENCES									
1.	Biology	61	21	150	3,150	20	150	3,000	41	6,150
2.	Chemistry	52	18		2,700	17		2,250	35	5,250
3.	Economics	21	7		1,050	7		1,050	14	2,100
4.	English	103	37		5,550	33		4,450	70	10,500
5.	French	19	7		1,050	6		900	13	1,950
6.	Geography	4	2		300	1		150	3	450
7.	Geology	13	5		750	4		600	9	1,350
8.	German	14	4		600	5		750	9	1,350
9.	History	26	8		1,200	9		1,350	17	2,550
10.	Home Economics	14	4		600	5		750	9	1,350
11.	Mathematics	65	21		3,150	22		3,300	43	6,450
12.	Philosophy	12	4		600	4		600	8	1,200
13.	Psychology	20	6		900	7		1,050	13	1,950
14.	Political Science	9	3		450	3		450	6	900
15.	Soc. and Anthro.	9	3		450	3		450	6	900
16.	Spanish	10	4		600	3		450	7	1,050
17.	Speech	14	4		600	5		750	9	1,350
18.	Russian	4	2		300	1		150	3	450
19.	Classics	2	2		300	-		-	2	300
20.	Education	26	8		1,200	9		1,350	17	2,550
21.	Library Science	5	1		150	2		300	3	450
	TOTAL COLLEGE	503	171		25,650	166		24,900	337	50,550

		F.T.E. Staff Required 12000 4-year 1965	F.T.E. Senior Staff* Offices for 1965			F.T.E. Junior Staff** Offices for 1965			F.T.E. Total Teaching Staff Offices for 1965	
			No.	Size	Sq. Ft.	No.	Size	Sq. Ft.	No.	Sq. Ft.
	COLLEGE OF COMMERCE & BUSINESS ADMIN.									
22.	Accountancy	16	6	150	900	5	150	750	11	1,650
23.	Finance	5	1		150	2		300	3	450
24.	Marketing	7	3		450	2		300	5	750
25.	Management	14	4		600	5		750	9	1,350
	TOTAL COLLEGE	42	14		2,100	14		2,100	28	4,200
	COLLEGE OF ENGINEERING									
26.	Chemical Engineering	3	1	150	150	1	150	150	2	300
27.	Civil Engineering	35	11		1,650	12		1,800	23	3,450
28.	Electrical Engineering	56	18		2,700	19		2,850	37	5,550
29.	Mechanical Engineering	55	19		2,850	18		2,700	37	5,550
30.	Physics	46	16		2,400	15		2,250	31	4,650
	TOTAL COLLEGE	195	65		9,750	65		9,750	130	19,500
	COLLEGE OF CREATIVE ARTS									
31.	Architecture	38	12	150	1,800	13	150	1,950	25	3,750
32.	Art and Music	27	9		1,350	9		1,350	18	2,700
	TOTAL COLLEGE	65	21		3,150	22		3,300	43	6,450
	COLLEGE OF PHYSICAL EDUCATION									
33.	P. E. for Men	30	10	150	1,500	10	150	1,500	20	3,000
34.	Recreation	5	1		150	2		300	3	450
35.	P. E. for Women	17	7		1,050	5		750	12	1,800
	TOTAL COLLEGE	52	18		2,700	17		2,550	35	5,250

		F.T.E. Staff Required 12000 4-year 1965	F.T.E. Senior Staff* Offices for 1965			F.T.E. Junior Staff** Offices for 1965			F.T.E. Total Teaching Staff Offices for 1965	
			No.	Size	Sq. Ft.	No.	Size	Sq. Ft.	No.	Sq. Ft.
	RESERVE OFFICERS TRAINING CORPS									
36.	Military Science	10	4	150	600	3	150	450	7	1,050
	TOTAL CORPS	10	4		600	3		450	7	1,050
	TOTAL UNIVERSITY	867	293		43,950	287		43,050	580	87,000

*Senior Staff - Professor and Associate Professor
**Junior Staff - Non Tenure Staff; Assistant Professor, Instructor and Assistant
***Assumes two-station offices

TABLE 14 - SUMMARY OF CLASSROOM CONTACT CLOCK HOURS BY DEPARTMENT AND BY SUGGESTED CAPACITY
1965 - 12,000 STUDENT ENROLLMENT

		Contact Clock Hrs. By Suggested Capacity						Total Number of Contact Clock Hrs.
	No. of Stations Area in Sq. Ft.	15 (300)	30 (450)	45 (630)	60 (780)	125 (1,250)	250 (2,250)	
	COLLEGE OF LIBERAL ARTS AND SCIENCES							
1.	Biology	29	18	2	5	38	6	98
2.	Chemistry	15	212	9	4	17	17	274
3.	Economics	34	200	1			6	241
4.	English	398	774	28	4	3	1	1,208
5.	French	35	186					221
6.	Geography	19	16	2	2			39
7.	Geology	8	34	2	3	2	5	54
8.	German	26	104					130
9.	History	19	176	12	4	9	19	239
10.	Home Economics	57	28	6	5	3	1	100
11.	Mathematics	27	704					731
12.	Philosophy	8	53	25		6		92
13.	Psychology	10	71	22	4	3	15	125
14.	Political Science	9	32	69				110
15.	Soc. and Anthro.	40	76	5			6	127
16.	Spanish	37	83					120
17.	Speech	22	129					151
18.	Russian	3	40					43
19.	Classics	14	14					28
20.	Education		129	18	2	2	2	153
21.	Library Science	39	11	8				58
	TOTAL CONTACT CLOCK HRS.	849	3,090	209	33	83	78	4,342
	TOTAL NO. OF ROOMS REQ.	23	85	6	1	2	2	119
	TOTAL SQ. FT. REQUIRED	6,900	38,250	3,780	780	2,500	4,500	56,710
	COLLEGE OF COMMERCE & BUSINESS ADMIN.							
22.	Accountancy	8	181					189
23.	Finance	18	49			1		68

	No. of Stations / Area in Sq. Ft.	Contact Clock Hrs. By Suggested Capacity 15 (300)	30 (450)	45 (630)	60 (780)	125 (1,250)	250 (2,250)	Total Number of Contact Clock Hrs.
	COLLEGE OF COMMERCE & BUSINESS ADMIN. (Cont.)							
24.	Marketing	12	71			1		84
25.	Management	5	149			1		154
	TOTAL CONTACT CLOCK HRS.	43	450			2		495
	TOTAL NO. OF ROOMS REQ.	1	13					14
	TOTAL SQ. FT. REQUIRED	300	850					6,150
	COLLEGE OF ENGINEERING							
26.	Chemical Eng.	14	11					25
27.	Civil Eng.	75	210			1		286
28.	Electrical Eng.	162	274			18		455
29.	Mechanical Eng.	28	217		6	1		252
30.	Physics	8	233	2			21	264
	TOTAL CONTACT CLOCK HRS.	287	946	2	6	20	21	1,282
	TOTAL NO. OF ROOMS REQ.	8	26			1	1	36
	TOTAL SQ. FT. REQUIRED	2,400	11,700			1,250	2,250	17,600
	COLLEGE OF CREATIVE ARTS							
31.	Architecture	10	56	10	4	13		93
32.	Art and Music	6	54		7	2		69
	TOTAL CONTACT CLOCK HRS.	16	110	10	11	15		162
	TOTAL NO. OF ROOMS REQ.	1	3		1			5
	TOTAL SQ. FT. REQUIRED	300	1,350		780			2,430
	COLLEGE OF PHYSICAL EDUCATION							
33.	P. E. for Men	8	65					73
34.	Recreation		38					38
35.	P. E. for Women	14	14					28
	TOTAL CONTACT CLOCK HRS.	22	117					139
	TOTAL NO. OF ROOMS REQ.	1	4					5
	TOTAL SQ. FT. REQUIRED	300	1,800					2,100

		Contact Clock Hrs. By Suggested Capacity						
	No. of Stations	15	30	45	60	125	250	Total Number of Contact Clock Hrs.
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	
	RESERVE OFFICERS TRAINING CORPS							
36.	Military Science	128	106					234
	TOTAL CONTACT CLOCK HRS.	128	106					234
	TOTAL NO. OF ROOMS REQ.	4	3					7
	TOTAL SQ. FT. REQUIRED	1,200	1,350					2,550
	TOTAL UNIVERSITY							
	TOTAL CONTACT CLOCK HRS.	1,345	4,819	221	50	120	99	6,654
	TOTAL NO. OF ROOMS REQ.	38	134	6	2	3	3	186
	TOTAL SQ. FT. REQUIRED	11,400	60,300	3,780	1,560	3,750	6,750	87,540

TABLE 15 - NUMBER OF CLASSROOMS BY DEPARTMENT AND BY SUGGESTED CAPACITY
1965 - 12,000 STUDENT ENROLLMENT

		Number of Rooms by Suggested Capacity						Total
	No. of Stations	15	30	45	60	125	250	Number
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	of Rooms
	COLLEGE OF LIBERAL ARTS AND SCIENCES							
1.	Biology	1	1			1		3
2.	Chemistry	1	6			1	1	9
3.	Economics	1	5					6
4.	English	3	19	1	1			24
5.	French	1	5					6
6.	Geography	1	1					2
7.	Geology	1	1					2
8.	German	1	3					4
9.	History	1	5				1	7
10.	Home Economics	1	1					2
11.	Mathematics	1	19					20
12.	Philosophy	1	2	1				4
13.	Psychology	1	2	1				4
14.	Political Science	1	1	2				4
15.	Soc. and Anthro.	1	2					3
16.	Spanish	1	2					3
17.	Speech	1	3					4
18.	Russian	1	1					2
19.	Classics	1	1					2
20.	Education	1	4	1				6
21.	Library Science	1	1					2
	TOTAL NO. OF ROOMS	23	85	6	1	2	2	119
	TOTAL SQ. FT. REQUIRED	6,900	38,250	3,780	780	2,500	4,500	56,710
	COLLEGE OF COMMERCE & BUSINESS ADMIN.							
22.	Accountancy		5					5
23.	Finance	1	2					3
24.	Marketing		2					2

		Number of Rooms by Suggested Capacity						Total
	No. of Stations	15	30	45	60	125	250	Number
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	of Rooms
	COLLEGE OF COMMERCE & BUSINESS ADMIN. (Cont.)							
25.	Management		4					4
	TOTAL NO. OF ROOMS	1	13					14
	TOTAL SQ. FT. REQUIRED	300	5,850					6,150
	COLLEGE OF ENGINEERING							
26.	Chemical Eng.	1	1					2
27.	Civil Eng.	2	6					8
28.	Electrical Eng.	3	7			1		11
29.	Mechanical Eng.	1	6					7
30.	Physics	1	6				1	8
	TOTAL NO. OF ROOMS	8	26			1	1	36
	TOTAL SQ. FT. REQUIRED	2,400	11,700			1,250	2,250	17,600
	COLLEGE OF CREATIVE ARTS							
31.	Architecture	1	2					3
32.	Art and Music		1		1			2
	TOTAL NO. OF ROOMS	1	3		1			5
	TOTAL SQ. FT. REQUIRED	300	1,350		780			2,430
	COLLEGE OF PHYSICAL EDUCATION							
33.	P. E. for Men	1	2					3
34.	Recreation		1					1
35.	P. E. for Women		1					1
	TOTAL NO. OF ROOMS	1	4					5
	TOTAL SQ. FT. REQUIRED	300	1,800					2,100
	RESERVE OFFICERS TRAINING CORPS							
36.	Military Science	4	3					7
	TOTAL NO. OF ROOMS	4	3					7
	TOTAL SQ. FT. REQUIRED	1,200	1,350					2,550

No. of Stations Area in Sq. Ft.	Number of Rooms by Suggested Capacity 15 (300)	 30 (450)	 45 (630)	 60 (780)	 125 (1,250)	 250 (2,250)	Total Number of Rooms
TOTAL UNIVERSITY							
TOTAL NO. OF ROOMS	38	134	6	2	3	3	186
TOTAL SQ.FT. REQUIRED	11,400	60,300	3,780	1,560	3,750	6,750	87,540

TABLE 16 - CLASSROOM NET SQUARE FEET BY DEPARTMENT AND BY SUGGESTED CAPACITY
1965 - 12,000 STUDENT ENROLLMENT

		Net Square Feet By Suggested Capacity						Total
	No. of Stations	15	30	45	60	125	250	Net
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	Sq. Ft.
	COLLEGE OF LIBERAL ARTS AND SCIENCES							
1.	Biology	300	450			1,250		2,000
2.	Chemistry	300	2,700			1,250	2,250	6,500
3.	Economics	300	2,250					2,550
4.	English	900	8,550	630	780			10,860
5.	French	300	2,250					2,550
6.	Geography	300	450					750
7.	Geology	300	450					750
8.	German	300	1,350					1,650
9.	History	300	2,250				2,250	4,800
10.	Home Economics	300	450					750
11.	Mathematics	300	8,550					8,850
12.	Philosophy	300	900	630				1,830
13.	Psychology	300	900	630				1,830
14.	Political Science	300	450	1,260				2,010
15.	Soc. and Anthro.	300	900					1,200
16.	Spanish	300	900					1,200
17.	Speech	300	1,350					1,650
18.	Russian	300	450					750
19.	Classics	300	450					750
20.	Education	300	1,800	630				2,730
21.	Library Science	300	450					750
	TOTAL NET SQ. FT.	6,900	38,250	3,780	780	2,500	4,500	56,710
	COLLEGE OF COMMERCE & BUSINESS ADMIN.							
22.	Accountancy		2,250					2,250
23.	Finance	300	900					1,200
24.	Marketing		900					900
25.	Management		1,800					1,800
	TOTAL NET SQ. FT.	300	5,850					6,150

		Net Square Feet By Suggested Capacity						Total
	No. of Stations	15	30	45	60	125	250	Net
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	Sq. Ft.
	COLLEGE OF ENGINEERING							
26.	Chemical Eng.		450					450
27.	Civil Eng.	600	2,700					3,300
28.	Electrical Eng.	1,200	3,150			1,250		5,600
29.	Mechanical Eng.	300	2,700					3,000
30.	Physics	300	2,700				2,250	5,250
	TOTAL NET SQ. FT.	2,400	11,700			1,250	2,250	17,600
	COLLEGE OF CREATIVE ARTS							
31.	Architecture	300	900					1,200
32.	Art and Music		450		780			1,230
	TOTAL NET SQ. FT.	300	1,350		780			2,430
	COLLEGE OF PHYSICAL EDUCATION							
33.	P. E. for Men	300	900					1,200
34.	Recreation		450					450
35.	P. E. for Women		450					450
	TOTAL NET SQ. FT.	300	1,800					2,100
	RESERVE OFFICERS TRAINING CORPS							
36.	Military Science	1,200	1,350					2,550
	TOTAL NET SQ. FT.	1,200	1,350					2,550
	TOTAL UNIVERSITY NET SQ. FT.	11,400	60,300	3,780	1,560	3,750	6,750	87,540

TABLE 17 - CALCULATIONS OF INSTRUCTIONAL LABORATORIES
AND AUXILIARY SPACE
1965 - 12,000 STUDENT ENROLLMENT

1	2	3	4	5	6	7	8	9	10	11
	Course	Lab. Ref. No.	Contact Hours of Labs	Planned Use Hrs/Week	Number of Labs	Planned Station Size Sq.Ft./Sta.	Section Size	20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	Total Net Sq. Ft. Lab & Aux	Courses Included
1.	Biology									
a.	Bacteriology	1	12	36	(1	x 50	x 25	x 1.5 =	1,875	104
		2	24	24	(1	x 50	x 24	x 1.5 =	1,800	300,306, 308,326
b.	Botany	3	88	36	(3	x 50	x 24	x 1.5 =	5,400	100
		4	8	36	(1	x 50	x 24	x 1.5 =	1,800	302,322
c.	Entomology	5	4	36	(1	x 50	x 24	x 1.5 =	1,800	103
d.	Physiology	6	24	36	(1	x 50	x 24	x 1.5 =	1,800	103
		7	24	36	(1	x 50	x 24	x 1.5 =	1,800	104
e.	Zoology	8	60	36	(2	x 50	x 24	x 1.5 =	3,600	101
		9	60	36	(2	x 50	x 24	x 1.5 =	3,600	104
		10	18	24	(1	x 50	x 24	x 1.5 =	1,800	132
		11	36	24	(2	x 50	x 24	x 1.5 =	3,600	304,318 321,333
		12	11	24	(1	x 50	x 20	x 1.5 =	1,500	361,363
f.	D.G.S.	13	46	36	(2	x 50	x 24	x 1.5 =	3,600	131
	Total Biology				19				33,975	
2.	Chemistry									
a.	Inorganic	14	260	36	(7	x 50	x 20	x 1.5 =	10,500	101,102,103, 105,107,109, 110,111
b.	Analytical	15	80	36	(2	x 50	x 20	x 1.5 =	3,000	122,124
c.	Organic	16	46	36	(2	x 70	x 20	x 1.5 =	4,200	132,133 234,337
d.	Physical	17	9	24	(1	x 70	x 20	x 1.5 =	2,100	341,343,345
e.	Bio	18	21	36	(1	x 100	x 20	x 1.5 =	3,000	327,338,354, 355

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. 1.20/.80 =1.50	10 Total Net Sq. Ft.	11 Courses Included
f.	Glassblowing	19	2	36	(Treated as auxiliary				)	291
	Total Chemistry				13				22,800	
3.	Economics	20	7	36	(1	x 30	x 25	x 1.5 =	1,125)	170,171
	Total Economics				1				1,125	
4.	English									
a.	Rhetoric	21	7	36	(1	x 50*	x 10	x 1.25* =	625)	110,111 (Listening Labs Foreign Studs.)
b.	Journalism	22	6	36	(1	x 35	x 30	x 1.5 =	1,575)	204,211
	Total English				2				2,200	
5.	French	23	54	36	(2	x 30*	x 20	x 1.25* =	1,500)	101,102,103, 104,113,211, 212,215 (Listening Labs)
	Total French				2				1,500	
6.	Geology	24	34	36	(1	x 35	x 20	x 1.5 =	1,050)	101,102,131 301,311,320, 335
	Total Geology				2				1,837	
7.	German	26	29	36	(1	x 30*	x 20	x 1.25* =	750)	101,102,103 104,113,211 303,360

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
	Total German				1				750	(Listening Labs)
8.	Home Economics									
a.	Child Develop.	27	8	36	(1	x 50	x 24	x 1.5 =	1,800)	105,201,202
b.	Food I	28	18	36	(1	x 50	x 16	x 1.5 =	1,200)	125,130,133, 220,232
c.	Food II	29	10	24	(1	x 50	x 16	x 1.5 =	1,200)	131,330
d.	Home Furn.	30	20	36	(1	x 50	x 24	x 1.5 =	1,800)	160,161,162 262
e.	Clothing	31	30	36	(1	x 50	x 20	x 1.5 =	1,500)	182,184 186,286
f.	Textile	32	28	36	(1	x 50	x 20	x 1.5 =	1,500)	183,281,380
g.	Home Mgt.	33	8	36	(1	x 50	x 20	x 1.5 =	1,500)	273,375
	Total Home Economics				7				10,500	
9.	Psychology	34	10	36	(1	x 40	x 15	x 1.5 =	900)	135,290
		35	8	36	(1	x 40	x 18	x 1.5 =	1,080)	330
	Total Psychology				2				1,980	
10.	Spanish	36	27	36	(1	x 30*	x 20	x 1.25* =	750)	Span. 101, 102,103,104, 113,211,212, 213, Ital. 101,103, Port. 101, 103 (Listening Labs)
	Total Spanish				1				750	

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. 1.20/.80 =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
11.	Speech	37	37	36	(1	x 50*	x 20	x 1.25* =	1,250)	101,105,141, Listening Labs
		38	18	36	([1]No Calculations -		(Classroom	=	2,400)	151,157,161
							(Scenery Shop	=	2,400)	(No Auxiliary
							(Costume Shop	=	1,200)	theater type)
	Total Speech				2				7,250	
12.	Russian	39	10	36	(1	x 30*	x 20	x 1.25* =	750)	101,103 Listening Labs
	Total Russian				1				750	
13.	Education	40	26	36	(1	x 40	x 25	x 1.5 =	1,500)	231,233,236, 237
	Elem Ed.	41	9	36	(1	x 40	x 25	x 1.5 =	1,500)	334,337
	Total Education				2				3,000	

* Indicate lab auxiliary allowance is included in planned station size square foot per station figure. (Listening Labs)

	Total LAS				54				88,417	

COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION

14.	Management									
a.	Management	42	4	36	(to use Industrial Engineering Laboratory)					205,221
		43	4	36	(1	x 30	x 15	x 1.5 =	675)	246
b.	Business Ed.	44	15	36	(1	x 30	x 40	x 1.5 =	1,800)	101,102,203 (Typewriting)
		45	15	36	(1	x 30	x 30	x 1.5 =	1,350)	111,112,213 (Shorthand)
	Total Management				3				3,825	

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft.	11 Courses Included
	Total Commerce				3				3,825	
	COLLEGE OF ENGINEERING									
15.	Chemical	46	4	36	(1	x 70	x 15	x 1.5 =	1,575)	267
		47	5	24	(1	x 70	x 15	x 1.5 =	1,575)	374
		48	5	24	(1	x 70	x 15	x 1.5 =	1,575)	379
	Total Chemical				3				4,725	
16.	Civil									
a.	Civil	49	66	36	(3	x 40	x 20	x 1.5 =	3,600)	105,222,250, 263,264 (old course nos.) (Drafting Rms.)
		50	4	36	(1	x 40	x 12	x 1.5 =	720)	306
		51	17	36	(1	x 150	x 20	x 1.5 =	4,500)	230,231,235
b.	Tam	52	24	36	(1	x 150	x 20	x 1.5 =	4,500)	223
		53	6	36	(1	x 250	x 20	x 1.5 =	7,500)	234
	Total Civil				7				20,820	
17.	Electrical	54	89	24	(4	x 75	x 20	x 1.5 =	9,000)	126,321,323, 209
		55	48	24	(2	x 150	x 20	x 1.5 =	9,000)	331,333,335, 337,339
		56	60	24	(3	x 75	x 16	x 1.5 =	5,400)	341,347,349
		57	30	24	(2	x 75	x 15	x 1.5 =	3,375)	351
		58	30	24	(2	x 75	x 15	x 1.5 =	3,375)	353
		59	24	24	(2	x 75	x 15	x 1.5 =	1,688)	355,381,382
		20	12	24	(1	x 75	x 15	x 1.5 =	1,688)	386,389
				Special Area - 1 Computer Lab. Center					(1,500)	
	Total Electrical				15				35,026	

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft.	11 Courses Included
18.	Mechanical									
a.	Mechanical	61	21	24	(1	x 150	x 24	x 1.5 =	5,400)	183 (Foundry)
		62	14	24	(1	x 150	x 20	x 1.5 =	4,500)	184,284 (Metal, Processing, & Welding)
		63	66	36	(2	x 40	x 24	x 1.5 =	2,880)	221,222,271, 273 (Drafting Rooms)
		64	12	24	(1	x 150	x 24	x 1.5 =	5,400)	234 (Heat Treat.)
		65	4	36	(1	x 150	x 24	x 1.5 =	5,400)	256 (Internal Combustion)
		66	8	36	(1	x 40	x 24	x 1.5 =	1,440)	260,322 (Heat, vent, Air Cond.)
		67	46	36	(2	x 150	x 24	x 1.5 =	10,800)	214,263,264 (Power Lab)
b.	Industrial Eng.	68	10	24	(1	x 50	x 24	x 1.5 =	1,800)	232,282
c.	General	69	312	36	(9	x 40	x 22	x 1.5 =	11,880)	101,102,106, 107,108,205, 212
	Total Mechanical				19				49,500	
19.	Physics	70	42	24	(2	x 50	x 24	x 1.5 =	3,600)	101
		71	42	24	(2	x 50	x 24	x 1.5 =	3,600)	106
		72	68	24	(3	x 50	x 24	x 1.5 =	5,400)	107,108
		73	18	24	(1	x 70	x 12	x 1.5 =	1,260)	341
		74	9	24	(1	x 70	x 12	x 1.5 =	1,260)	342
		75	12	24	(1	x 70	x 12	x 1.5 =	1,260)	344,371

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. 1.20/.80 =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
				Special Areas						
					1	Atomic Physics Lab.			(1,500)	282
					1	Physics Lecture Room			(1,500)	
						Work Shop			(1,000)	
					1	Isotopes Lab.			(1,000)	
	Total Physics				12				21,380	
	Total Engineering				57				131,451	
COLLEGE OF CREATIVE ARTS										
20.	Architecture	76	160	24	7	60	20	1.5	12,600	101,131,132 133,134
		77	12	24	1	60	25	1.5	2,250	172,171
		78	198	24	8	60	20	1.5	14,400	235,236,244, 245,246
		79	80	36	2	60	20	1.5	3,600	337,338
		80	19	36	1	60	20	1.5	1,800	347,348,358
	Total Architecture				19				34,650	
21.	Art	81	114	24	5	60	25	1.5	11,250	101,181,182, 183,184,281, 282
		82	45	24	2	60	25	1.5	4,500	117,118,127, 129,130,225
		83	57	24	3	60	25	1.5	6,750	119,120,185, 186
	Life Drawings	84	12	24	1	60	25	1.5	2,250	125,126
	Composition	85	36	24	2	60	25	1.5	4,500	131,132,241, 233,231
	Sculpture Recr.Crafts, Metal, Leather-work	86	6	24	1	60	25	1.5	2,250	150
		87	30	24	2	60	25	1.5	4,500	170,171,175

1	2	3	4	5	6	7	8	9	10	11
	Course	Lab. Ref. No.	Contact Hours of Labs	Planned Use Hrs/Week	Number of Labs	Planned Station Size Sq.Ft./Sta.	Section Size	20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	Total Net Sq. Ft. Lab & Aux	Courses Included
	Pottery	88	6	24	(1	x 60	x 25	x 1.5 =	2,250)	173
	Art Education	89	18	24	(1	x 60	x 25	x 1.5 =	2,250)	203
	Illust., Painting Special	90	27	24	(1	x 60	x 25	x 1.5 =	2,250)	235,243,245, 247
	Music	--	--	--	(1				2,000)	Band, Choral Orchestra
	Total Art				20				44,750	
	Total Creative Arts				39				79,400	
COLLEGE OF PHYSICAL EDUCATION										
22.	Physical Educ.									
a.	Men	91		From Building & Field Comm. Report					86,750	See Footnote (a)
b.	Women	92		From Building & Field Comm. Report					40,750	
	Total Physical Education								127,500	
RESERVE OFFICERS TRAINING CORPS										
23.	Military Science	93		Storage of uniforms, weapons, arsenal, books, and office space for property, custodian and stores clerk, and rifle range. (does not include drill area.)					15,300	
	TOTAL UNIVERSITY				155				445,893	

FOOTNOTE (a)

1965
PHYSICAL EDUCATION
INSTRUCTIONAL LABORATORY CALCULATION (NET SQ. FT.)

			Net Sq. Ft.			
	GROUP	FACILITY	TYPE A-1	TYPE A-2	TYPE A-3	TOTALS
A.	Men	1) Gymnasium	14,000 Wood Floor 7,000 Wood Floor 7,000 Wood Floor	3,500 Wood Floor 2,500 Wood Floor 2,500 Wood Floor 2,500 Wood Floor	3,750 Pool 3,000 Deck	
			(35,000) +	(11,000) +	(6,750)	= (66,250)
		2) Service Areas (8,900 Men x 2.28)				(20,500)
		TOTAL MEN				86,750
B.	Women	1) Gymnasium	14,000 Wood Floor 7,000 Wood Floor	3,500 Wood Floor 2,500 Wood Floor	3,750 Pool 3,000 Deck	
			(21,000) +	(6,000) +	(6,750)	= (33,750)
		2) Service Areas (4,850 Women x 2.28)				(7,000)
		TOTAL WOMEN				40,750
C.	TOTAL MEN AND WOMEN					127,500

TABLE 18 - SUMMARY OF INSTRUCTIONAL LABORATORIES AND AUXILIARY NET SQUARE FEET BY DEPARTMENT
1965 - 12,000 STUDENT ENROLLMENT

Department	Number of Labs.	Total Net Sq. Ft. Labs.
COLLEGE OF LIBERAL ARTS AND SCIENCES		
1. Biology	19	33,975
2. Chemistry	13	22,800
3. Economics	1	1,125
4. English	2	2,200
5. French	2	1,500
6. Geology	2	1,837
7. German	1	750
8. Home Economics	7	10,500
9. Psychology	2	1,980
10. Spanish	1	750
11. Speech	2	7,250
12. Russian	1	750
13. Education	2	3,000
TOTAL LAS	54	88,417
COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION		
14. Management	3	3,825
TOTAL COMMERCE	3	3,825
COLLEGE OF ENGINEERING		
15. Chemical Engineering	3	4,725
16. Civil Engineering	6	20,820
17. Electrical Engineering	16	35,026
18. Mechanical Engineering	20	49,500
19. Physics	12	21,380
TOTAL ENGINEERING	57	131,451
COLLEGE OF CREATIVE ARTS		
20. Architecture	19	34,650
21. Art & Music	20	44,750
TOTAL CREATIVE ARTS	39	79,400
COLLEGE OF PHYSICAL EDUCATION		
22. Physical Education	2	127,500
RESERVE OFFICERS TRAINING CORPS		
23. Military Science	-	15,300
TOTAL UNIVERSITY	155	445,893

TABLE 19 - SUMMARY OF NET SQUARE FEET REQUIREMENTS BY DEPARTMENT
1965 - 12,000 STUDENT ENROLLMENT

	1 Administrative Offices	2 Staff Offices	3 Class Rooms & Seminar Rooms	4 Instructional Laboratories (20% Auxiliary Space)	5 Total Net Sq. Ft.
COLLEGE OF LIBERAL ARTS AND SCIENCES	2,200				2,200
1. Biology	1,755	6,150	2,000	33,975	43,880
2. Chemistry	1,445	5,250	6,500	22,800	35,495
3. Economics	1,026	2,100	2,550	1,124	6,801
4. English	1,971	10,500	10,860	2,200	25,531
5. French	1,026	1,950	2,550	1,500	7,026
6. Geography	918	450	750	---	2,118
7. Geology	918	1,350	750	1,837	4,855
8. German	918	1,350	1,650	750	4,668
9. History	1,026	2,550	4,800	---	8,376
10. Home Economics	918	1,350	750	10,500	13,518
11. Mathematics	1,755	6,450	8,850	---	17,055
12. Philosophy	918	1,200	1,830	---	3,948
13. Psychology	1,026	1,950	1,830	1,980	6,786
14. Political Science	918	900	2,010	---	3,828
15. Sociology and Anthropology	918	900	1,200	---	3,018
16. Spanish	918	1,050	1,200	750	3,918
17. Speech	918	1,350	1,650	7,250	11,168
18. Russian	918	450	750	750	2,868
19. Classics	918	300	750	---	1,968
20. Education	1,026	2,550	2,730	3,000	9,306
21. Library Science	918	450	750	---	2,118
TOTAL COLLEGE	25,272	50,550	56,710	88,417	220,949
COLLEGE OF COMMERCE & BUSINESS ADMIN.	1,580				1,580
22. Accountancy	1,026	1,650	2,250	---	4,926
23. Finance	918	450	1,200	---	2,568
24. Marketing	918	750	900	---	2,568
25. Management	918	1,350	1,800	3,825	7,893
TOTAL COLLEGE	5,360	4,200	6,150	3,825	19,535

	1 Adminis- trative Offices	2 Staff Offices	3 Class Rooms & Seminar Rooms	4 Instructional Laboratories (20% Auxiliary Space)	5 Total Net Sq. Ft.
COLLEGE OF ENGINEERING	1,890				1,890
26. Chemical Engineering	918	300	450	4,725	6,393
27. Civil Engineering	1,336	3,450	3,300	20,820	28,906
28. Electrical Engineering	1,445	5,550	5,600	35,026	47,621
29. Mechanical Engineering	1,445	5,550	3,000	49,500	59,495
30. Physics	1,336	4,650	5,250	21,380	32,616
TOTAL COLLEGE	8,370	19,500	17,600	131,451	176,921
COLLEGE OF CREATIVE ARTS	1,580				1,580
31. Architecture	1,336	3,750	1,200	34,650	40,936
32. Art and Music	1,026	2,700	1,230	44,750	49,706
TOTAL COLLEGE	3,942	6,450	2,430	79,400	92,222
COLLEGE OF PHYSICAL EDUCATION	1,580				1,580
33. P. E. for Men	1,134	3,000	1,200	86,750	92,084
34. Recreation	918	450	450	---	1,818
35. P. E. for Women	1,026	1,800	450	40,750	44,026
TOTAL COLLEGE	4,658	5,250	2,100	127,500	139,508
RESERVE OFFICERS TRAINING CORPS					
36. Military Science	918	1,050	2,550	15,300	19,818
TOTAL CORPS	918	1,050	2,550	15,300	19,818
TOTAL UNIVERSITY	48,520	87,000	87,540	445,893	668,953
% Facility Total is to Total NSF	7.3%	13.0%	13.1%	66.6%	100%

APPENDIX G

STUDIES OF 1969 ACADEMIC SPACE REQUIREMENTS

TABLE 20--TEACHING STAFF OFFICES (1969)

	1. F.T.E. Staff Required 20,000 4-Year 1969	2. F.T.E. Senior Staff* Offices For 1969 No.	Size	Sq. Ft.	3. F.T.E. Junior Staff** Offices For No.	Size ***	Sq. Ft.	4. F.T.E. Teaching Staff Offices For 1969 Total No.	Sq. Ft.
COLLEGE OF LIBERAL ARTS AND SCIENCES									
1. Biology	101	33	150	4950	34	150	5100	67	10050
2. Chemistry	87	29	150	4350	29	150	4350	58	8700
3. Economics	35	11	150	1650	12	150	1800	23	3450
4. English	172	56	150	8400	58	150	8700	114	17100
5. French	31	11	150	1650	10	150	1500	21	3150
6. Geography	5	3	150	450	1	150	150	4	600
7. Geology	21	7	150	1050	7	150	1050	14	2100
8. German	17	5	150	750	6	150	900	11	1650
9. History	43	15	150	2250	14	150	2100	29	4350
10. Home Economics	23	7	150	1050	8	150	1200	15	2250
11. Mathematics	108	36	150	5400	36	150	5400	72	10800
12. Philosophy	19	7	150	1050	6	150	900	13	1950
13. Psychology	34	12	150	1800	11	150	1650	23	3450
14. Political Science	16	6	150	900	5	150	750	11	1650
15. Sociology & Anthro.	16	6	150	900	5	150	750	11	1650
16. Spanish	16	6	150	900	5	150	750	11	1650
17. Speech	22	8	150	1200	7	150	1050	15	2250
18. Russian	7	3	150	450	2	150	300	5	750
19. Classics	3	3	150	450	0	150	0	3	450
20. Education	42	14	150	2100	14	150	2100	28	4200
21. Library Science	8	2	150	300	3	150	450	5	750
TOTAL COLLEGE	826	280		42000	273		40950	553	82950
COLLEGE OF COMMERCE & BUSINESS ADMINISTRATION									
22. Accountancy	26	10	150	1500	8	150	1200	18	2700
23. Finance	8	2	150	300	3	150	450	5	750
24. Marketing	11	3	150	450	4	150	600	7	1050
25. Management	23	7	150	1050	8	150	1200	15	2250
TOTAL COLLEGE	68	22		3300	23		3450	45	6750

TABLE 20--TEACHING STAFF OFFICES (1969) (Continued)

	1. F.T.E. Staff Required 20,000 4-Year 1969	2. F.T.E. Senior Staff* Offices For 1969 No.	Size	Sq. Ft.	3. F.T.E. Junior Staff** Offices For 1969 No.	Size ***	Sq. Ft.	4. F.T.E. Teaching Staff Offices For 1969 Total No.	Sq. Ft.
COLLEGE OF ENGINEERING									
26. Chemical Eng.	4	2	150	300	1	150	150	3	450
27. Civil Eng.	58	18	150	2700	20	150	3000	38	5700
28. Elect. Eng.	94	32	150	4800	31	150	4650	63	9450
29. Mech. Eng.	91	31	150	4650	30	150	4500	61	9150
30. Physics	76	24	150	3600	26	150	3900	50	7500
TOTAL COLLEGE	323	107		16050	108		16200	215	32250
COLLEGE OF CREATIVE ARTS									
31. Architecture	64	20	150	3000	22	150	3300	42	6300
32. Art and Music	45	15	150	2250	15	150	2250	30	4500
TOTAL COLLEGE	109	35		5250	37		5550	72	10800
COLLEGE OF PHYSICAL EDUCATION									
33. P.E. for Men	49	17	150	2550	16	150	2400	33	4950
34. Recreation	9	3	150	450	3	150	450	6	900
35. P.E. for Women	28	10	150	1500	9	150	1350	19	2850
TOTAL COLLEGE	86	30		4500	28		4200	58	8700
RESERVE OFFICERS TRAINING CORPS									
36. Military Science	16	6	150	900	5	150	750	11	1650
TOTAL CORPS	16	6		900	5	150	750	11	1650
TOTAL UNIVERSITY	1428	480		72000	474		71100	954	143100

* Senior Staff--Professor and Associate Professor

** Junior Staff--Non-tenure Staff; Assistant Professor, Instructor and Assistant

*** Assumes two-station offices

TABLE 21 - SUMMARY OF CLASSROOM CONTACT CLOCK HOURS BY DEPARTMENT AND BY SUGGESTED CAPACITY
1969 - 20,000 STUDENT ENROLLMENT

		Contact Clock Hrs. By Suggested Capacity						Total Number of Contact Clock Hrs.
	No. of Stations	15	30	45	60	125	250	
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	
	COLLEGE OF LIBERAL ARTS AND SCIENCES							
1.	Biology	48	30	3	8	63	10	162
2.	Chemistry	25	353	15	7	29	29	458
3.	Economics	57	333	2			10	402
4.	English	663	1,290	47	7	5	2	2,014
5.	French	58	310					368
6.	Geography	32	27	3	3			65
7.	Geology	13	57	3	5	3	8	89
8.	German	43	173					216
9.	History	32	293	20	7	15	31	398
10.	Home Economics	95	47	10	8	5	2	167
11.	Mathematics	45	1,173					1,218
12.	Philosophy	13	88	42		10		153
13.	Psychology	17	118	37	7	5	25	209
14.	Political Science	15	53	115				183
15.	Soc. and Anthro.	67	127	8			10	212
16.	Spanish	62	138					200
17.	Speech	37	215					252
18.	Russian	5	67					72
19.	Classics	23	24					47
20.	Education		215	30	3	3	3	254
21.	Library Science	65	19	13				97
	TOTAL CONTACT CLOCK HRS.	1,415	5,150	348	55	138	130	7,236
	TOTAL NO. OF ROOMS REQ.	38	143	9	1	4	4	199
	TOTAL SQ. FT. REQUIRED	11,400	64,350	5,670	780	5,000	9,000	96,200
	COLLEGE OF COMMERCE & BUSINESS ADMIN.							
22.	Accountancy	13	302					315
23.	Finance	30	82			2		114

		Contact Clock Hrs. By Suggested Capacity						Total Number of Contact Clock Hrs.
	No. of Stations	15	30	45	60	125	250	
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	
	COLLEGE OF COMMERCE & BUSINESS ADMIN. (Cont.)							
24.	Marketing	20	118			2		140
25.	Management	9	248					257
	TOTAL CONTACT CLOCK HRS.	72	750			4		826
	TOTAL NO. OF ROOMS REQ.	2	21					23
	TOTAL SQ. FT. REQ.	600	9,450					10,050
	COLLEGE OF ENGINEERING							
26.	Chemical Eng.	23	19					42
27.	Civil Eng.	125	350			2		477
28.	Electrical Eng.	270	458			29		757
29.	Mechanical Eng.	47	362		10	2		421
30.	Physics	13	388	3			35	439
	TOTAL CONTACT CLOCK HRS.	478	1,577	3	10	33	35	2,136
	TOTAL NO. OF ROOMS REQ.	13	44	1		1	1	60
	TOTAL SQ. FT. REQ.	3,900	19,800	630		1,250	2,250	27,830
	COLLEGE OF CREATIVE ARTS							
31.	Architecture	17	93	17	7	22		156
32.	Art and Music	10	90		11	3		114
	TOTAL CONTACT CLOCK HRS.	27	183	17	18	25		270
	TOTAL NO. OF ROOMS REQ.	1	5		1	1		8
	TOTAL SQ. FT. REQ.	300	2,250		780	1,250		4,580
	COLLEGE OF PHYSICAL EDUCATION							
33.	P. E. for Men	14	108					122
34.	Recreation		64					64
35.	P. E. for Women	23	23					46
	TOTAL CONTACT CLOCK HRS.	37	195					232
	TOTAL NO. OF ROOMS REQ.	2	5					7
	TOTAL SQ. FT. REQ.	600	2,250					2,850

		Contact Clock Hrs. By Suggested Capacity						Total Number of Contact Clock Hrs.
	No. of Stations Area in Sq. Ft.	15 (300)	30 (450)	45 (630)	60 (780)	125 (1,250)	250 (2,250)	
	RESERVE OFFICERS TRAINING CORPS							
36.	Military Science	213	177	---	---	---	---	390
	TOTAL CONTACT CLOCK HRS.	213	177					390
	TOTAL NO. OF ROOMS REQ.	6	5					11
	TOTAL SQ. FT. REQ.	1,800	2,250	---	---	---	---	4,050
	TOTAL UNIVERSITY							
	TOTAL CONTACT CLOCK HRS.	2,242	8,032	368	83	200	165	11,090
	TOTAL NO. OF ROOMS REQ.	62	223	10	2	6	5	308
	TOTAL SQ. FT. REQ.	18,600	100,350	6,300	1,560	7,500	11,250	145,560

TABLE 22 - NUMBER OF CLASSROOMS BY DEPARTMENT AND BY SUGGESTED CAPACITY
1969 - 20,000 STUDENT ENROLLMENT

		Number of Rooms by Suggested Capacity						Total
	No. of Stations	15	30	45	60	125	250	Number
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	of Rooms
	COLLEGE OF LIBERAL ARTS AND SCIENCES							
1.	Biology	2	1			2		5
2.	Chemistry	1	10			1	1	13
3.	Economics	2	9					11
4.	English	8	32	1	1			42
5.	French	2	9					11
6.	Geography	1	1					2
7.	Geology	1	2					3
8.	German	2	5					7
9.	History	1	8	1		1	1	12
10.	Home Economics	3	2					5
11.	Mathematics	2	32					34
12.	Philosophy	1	3	1				5
13.	Psychology	1	3	1			1	6
14.	Political Science	1	2	3				6
15.	Soc. and Anthro.	2	4				1	7
16.	Spanish	2	4					6
17.	Speech	1	6					7
18.	Russian	1	2					3
19.	Classics	1	1					2
20.	Education	1	6	1				8
21.	Library Science	2	1	1				4
	TOTAL NO. OF ROOMS	38	143	9	1	4	4	199
	TOTAL SQ. FT. REQ.	11,400	64,350	5,670	780	5,000	9,000	96,200
	COLLEGE OF COMMERCE & BUSINESS ADMIN.							
22.	Accountancy		8					8
23.	Finance	1	3					4
24.	Marketing	1	3					4

		Number of Rooms By Suggested Capacity						
	No. of Stations Area in Sq. Ft.	15 (300)	30 (450)	45 (630)	60 (780)	125 (1,250)	250 (2,250)	Total Number of Rooms
	COLLEGE OF COMMERCE & BUSINESS ADMIN. (Cont.)							
25.	Management		7					7
	TOTAL NO. OF ROOMS	2	21					23
	TOTAL SQ. FT. REQ.	600	9,450					10,050
	COLLEGE OF ENGINEERING							
26.	Chemical Eng.	1	1					2
27.	Civil Eng.	3	10					13
28.	Electrical Eng.	7	13			1		21
29.	Mechanical Eng.	1	10					11
30.	Physics	1	10	1			1	13
	TOTAL NO. OF ROOMS	13	44	1		1	1	60
	TOTAL SQ. FT. REQ.	3,900	19,800	630		1,250	2,250	27,830
	COLLEGE OF CREATIVE ARTS							
31.	Architecture	1	3			1		5
32.	Art and Music		2		1			3
	TOTAL NO. OF ROOMS	1	5		1	1		8
	TOTAL SQ. FT. REQ.	300	2,250		780	1,250		4,580
	COLLEGE OF PHYSICAL EDUCATION							
33.	P. E. for Men	1	2					3
34.	Recreation		2					2
35.	P. E. for Women	1	1					2
	TOTAL NO. OF ROOMS	2	5					7
	TOTAL SQ. FT. REQ.	600	2,250					2,850
	RESERVE OFFICERS TRAINING CORPS							
36.	Military Science	6	5					11
	TOTAL NO. OF ROOMS	6	5					11
	TOTAL SQ. FT. REQ.	1,800	2,250					4,050

No. of Stations Area in Sq. Ft.	Number of Rooms by Suggested Capacity 15 (300)	 30 (450)	 45 (630)	 60 (780)	 125 (1,250)	 250 (2,250)	Total Number of Rooms
TOTAL UNIVERSITY							
TOTAL NO. OF ROOMS	62	223	10	2	6	5	308
TOTAL SQ. FT. REQ.	18,600	100,350	6,300	1,560	7,500	11,250	145,560

TABLE 23 - CLASSROOM NET SQUARE FEET BY DEPARTMENT AND BY SUGGESTED CAPACITY
1969 - 20,000 STUDENT ENROLLMENT

		Net Square Feet By Suggested Capacity						Total
	No. of Stations	15	30	45	60	125	250	Net
	Area in Sq. Ft.	(300)	(450)	(630)	(780)	(1,250)	(2,250)	Sq. Ft.
	COLLEGE OF LIBERAL ARTS AND SCIENCES							
1.	Biology	600	450			2,500		3,550
2.	Chemistry	300	4,500			1,250	2,250	8,300
3.	Economics	600	4,050					4,650
4.	English	2,400	14,400	630	780			18,210
5.	French	600	4,050					4,650
6.	Geography	300	450					750
7.	Geology	300	900					1,200
8.	German	600	2,250					2,850
9.	History	300	3,600	630		1,250	2,250	8,030
10.	Home Economics	900	900					1,800
11.	Mathematics	600	14,400					15,000
12.	Philosophy	300	1,350	630				2,280
13.	Psychology	300	1,350	630			2,250	4,530
14.	Political Science	300	900	1,890				3,090
15.	Soc. and Anthro.	600	1,800				2,250	4,650
16.	Spanish	600	1,800					2,400
17.	Speech	300	2,700					3,000
18.	Russian	300	900					1,200
19.	Classics	300	450					750
20.	Education	300	2,700	630				3,630
21.	Library Science	600	450	630				1,680
	TOTAL NET SQ. FT.	11,400	64,350	5,670	780	5,000	9,000	96,200
	COLLEGE OF COMMERCE & BUSINESS ADMIN.							
22.	Accountancy		3,600					3,600
23.	Finance	300	1,350					1,650
24.	Marketing	300	1,350					1,650
25.	Management		3,150					3,150
	TOTAL NET SQ. FT.	600	9,450					10,050

		Net Square Feet By Suggested Capacity						Total
	No. of Stations Area in Sq. Ft.	15 (300)	30 (450)	45 (630)	60 (780)	125 (1,250)	250 (2,250)	Net Sq. Ft.
	COLLEGE OF ENGINEERING							
26.	Chemical Eng.	300	450					750
27.	Civil Eng.	900	4,500					5,400
28.	Electrical Eng.	2,100	5,850			1,250		9,200
29.	Mechanical Eng.	300	4,500					4,800
30.	Physics	300	4,500	630			2,250	7,680
	TOTAL NET SQ. FT.	3,900	19,800	630		1,250	2,250	27,830
	COLLEGE OF CREATIVE ARTS							
31.	Architecture	300	1,350			1,250		2,900
32.	Art and Music		900		780			1,680
	TOTAL NET SQ. FT.	300	2,250		780	1,250		4,580
	COLLEGE OF PHYSICAL EDUCATION							
33.	P. E. for Men	300	900					1,200
34.	Recreation		900					900
35.	P. E. for Women	300	450					750
	TOTAL NET SQ. FT.	600	2,250					2,850
	RESERVE OFFICERS TRAINING CORPS							
36.	Military Science	1,800	2,250					4,050
	TOTAL NET SQ. FT.	1,800	2,250					4,050
	TOTAL UNIVERSITY NET SQ. FT.	18,600	100,350	6,300	1,560	7,500	11,250	145,560

TABLE 24 - CALCULATIONS OF INSTRUCTIONAL LABORATORIES
AND AUXILIARY SPACE
1969 20,000 STUDENT ENROLLMENT

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs (1965)1969	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. 1.20/.80 =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
COLLEGE OF LIBERAL ARTS AND SCIENCES										
1.	Biology									
a.	Bacteriology	1	(12) 20	36	1	50	25	1.5	1,875	104
		2	(24) 40	24	2	50	24		3,600	300,306,308, 326
b.	Botany	3	(88) 146	36	4	50	24	1.5	7,200	100
		4	(8) 13	36	1	50	24	1.5	1,800	302,322
c.	Entomology	5	(4) 7	36	1	50	24	1.5	1,800	103
d.	Physiology	6	(24) 40	36	1	50	24	1.5	1,800	103
		7	(24) 40	36	1	50	24	1.5	1,800	104
e.	Zoology	8	(60) 100	36	3	50	24	1.5	5,400	101
		9	(60) 100	36	3	50	24	1.5	5,400	104
		10	(18) 30	24	1	50	24	1.5	1,800	132
		11	(36) 60	24	3	50	24	1.5	5,400	304,318, 321,333
		12	(11) 18	24	1	50	20	1.5	1,500	361,363
f.	D.G.S.	13	(46) 76	36	2	50	24	1.5	3,600	131
	Total Biology				24				42,975	
2.	Chemistry									
a.	Inorganic	14	(260) 432	36	12	50	20	1.5	18,000	101,102,103, 105,107,109, 110,111
b.	Analytical	15	(80) 133	36	4	50	20	1.5	6,000	122,124
c.	Organic	16	(46) 76	36	2	70	20	1.5	4,200	132,133, 234,337
d.	Physical	17	(9) 15	24	1	70	20	1.5	2,100	341,343,345
e.	Bio	18	(21) 35	36	1	100	20	1.5	3,000	327,338,354, 355

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs (1965) 1969	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
f.	Glass blowing	19	(2) 3	36	(Treated as Auxiliary)				------)	291
	Total Chemistry				20				33,300)	
3.	Economics	20	(7) 12	36	(1	x 30	x 25	x 1.5 =	1,125)	170,171
	Total Economics				1				1,125	
4.	English									
a.	Rhetoric	21	(7) 12	36	(1	x 50*	x 10	x 1.25* =	1,250)	110,111 Listening Lab. Foreign Studs.
b.	Journalism	22	(6) 10	36	(1	x 35	x 30	x 1.5 =	1,575)	204,211
	Total English				2				2,825	
5.	French	23	(54) 90	36	(3	x 30*	x 20	x 1.25* =	2,250)	101,102,103, 104,113,211, 212,215
	Total French				3				2,250	Listening Lab.
6.	Geology	24	(34) 56	36	(2	x 35	x 20	x 1.5 =	2,100)	101,102,131
		25	(10) 17	36	(1	x 35	x 15	x 1.5 =	787)	301,311,320, 335
	Total Geology				3				2,887	
7.	German	26	(29) 48	36	(2	x 30*	x 20	x 1.25* =	1,500)	101,102,103, 104,113,211, 303,360
	Total German				2				1,500	Listening Lab.
8.	Home Econ.									
a.	Child Devel.	27	(8) 13	36	(1	x 50	x 24	x 1.5 =	1,800)	105,201,202

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs (1965) 1969	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
b.	Food I	28	(18) 30	36	(1	x 50	x 16	x 1.5 =	1,200)	125,130,133, 220,232
c.	Food II	29	(10) 17	24	(1	x 50	x 16	x 1.5 =	1,200)	131,330
d.	Home Furn.	30	(20) 40	36	(1	x 50	x 24	x 1.5 =	1,800)	160,161, 162,262
e.	Clothing	31	(30) 50	36	(2	x 50	x 20	x 1.5 =	3,000)	182,184, 186,286
f.	Textile	32	(28) 46	36	(2	x 50	x 20	x 1.5 =	3,000)	183,281,380
g.	Home Mgt.	33	(8) 13	36	(1	x 50	x 20	x 1.5 =	1,500)	273,375
	Total Home Economics				9				13,500	
9.	Psychology	34	(10) 17	36	(1	x 40	x 15	x 1.5 =	900)	135,290
		35	(8) 13	36	(1	x 40	x 18	x 1.5 =	1,080)	330
	Total Psychology				2				1,980	
10.	Spanish	36	(27) 45	36	(2	x 30*	x 20	x 1.25* =	1,500)	Span.101,102, 103,104,113, 211,212,213 Ital.101,103 Port.101,103
	Total Spanish				2				1,500	Listening Labs.
11.	Speech	37	(37) 61	36	(2	x 50*	x 20	x 1.25* =	2,500)	101,105,141 Listening Labs.
		38	(18) 30	36	(1	No. Calc.	(Classroom	=	2,400)	151,157,161
							(Scenery Shop	=	2,400)	(No Auxiliary-
							(Costume Shop	=	1,200)	Theater Type)
	Total Speech				3				8,500	
12.	Russian	39	(10) 17	36	(1	x 50*	x 20	x 1.25* =	1,250)	101,103 Listening Lab.

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs (1965)1969	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
	Total Russian				1				1,250	
13.	Education	40	(26)	43	36	(2 x	40 x	25 x 1.5 =	3,000)	231,233,236, 237
14.	Elem Ed.	41	(9)	15	36	(1 x	40 x	25 x 1.5 =	1,500)	335,337
	Total Education				3				4,500	

* Indicates Lab Auxiliary Allowance is included in planned station size square foot per station figure (Listening Labs)

	TOTAL LAS				75				118,092	
	COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION									
15.	Management									
a.	Management	42	(4)	7	36	(To use Industrial Eng. Lab.			---)	205,221
		43	(4)	7	36	(1 x	30 x	15 x 1.5 =	675)	246
b.	Business Ed.	44	(15)	25	36	(1 x	30 x	40 x 1.5 =	1,800)	101,102,103 Typewriting
		45	(15)	25	36	(1 x	30 x	30 x 1.5 =	1,350)	111,112,213 Shorthand
	Total Management				3				3,825	
	TOTAL COMMERCE				3				3,825	
	COLLEGE OF ENGINEERING									
16.	Chemical	46	(4)	7	36	(1 x	70 x	15 x 1.5 =	1,575)	267
		47	(5)	8	24	(1 x	70 x	15 x 1.5 =	1,575)	374
		48	(5)	8	24	(1 x	70 x	15 x 1.5 =	1,575)	379
	Total Chemical				3				4,725	

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs (1965) 1969	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
17.	Civil									
a.	Civil	49	(66) 110	36	(3	x 40	x 20	x 1.5 =	3,600)	105,222,250, 263,264 (Old course No's.) (Drafting Rms.)
		50	(4) 7	36	(1	x 40	x 12	x 1.5 =	720)	306
		51	(17) 28	36	(1	x 150	x 20	x 1.5 =	4,500)	230,231,235
b.	TAM	52	(24) 40	36	(1	x 150	x 20	x 1.5 =	4,500)	223
		53	(6) 10	36	(1	x 250	x 20	x 1.5 =	7,500)	234
	Total Civil				7				20,820	
18.	Electrical	54	(89) 148	24	(6	x 75	x 20	x 1.5 =	13,500)	126,321,323, 209
		55	(48) 80	24	(4	x 150	x 20	x 1.5 =	18,000)	331,333,335, 337,339
		56	(60) 100	24	(4	x 75	x 16	x 1.5 =	7,200)	341,347,349
		57	(30) 50	24	(2	x 75	x 15	x 1.5 =	3,375)	351
		58	(30) 50	24	(2	x 75	x 15	x 1.5 =	3,375)	353
		59	(24) 40	24	(2	x 75	x 15	x 1.5 =	3,375)	355,381,382
		60	(12) 20	24	(1	x 75	x 15	x 1.5 =	1,688)	386,389
					Special Area - 1 Computer Lab. Center				(1,500)	
	Total Electrical				22				52,013)	
19.	Mechanical									
a.	Mechanical	61	(21) 35	24	(2	x 150	x 24	x 1.5 =	10,800)	183 (Foundry)
		62	(14) 23	24	(1	x 150	x 20	x 1.5 =	4,500)	184,284 (Medal Processing & Welding)
		63	(66) 110	36	(3	x 40	x 24	x 1.5 =	4,320)	221,222,271, 273 (Drafting Rooms)

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs (1965) 1969	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
		64	(12) 20	24	(1	x 150	x 24	x 1.5 =	5,400	234 (Heat Treat)
		65	(4) 7	36	(1	x 150	x 24	x 1.5 =	5,400	256 (Internal Combustion)
		66	(8) 13	36	(1	x 40	x 24	x 1.5 =	1,440	260,322 (Heat Vent, Air Cond)
		67	(46) 76	36	(2	x 150	x 24	x 1.5 =	10,800	214,263,264 (Power Lab.)
b.	Industrial Engr.	68	(10) 17	24	(1	x 50	x 24	x 1.5 =	1,800	232,282
c.	General	69	(312) 518	36	(14	x 40	x 22	x 1.5 =	18,480	101,102,106, 107,108,205, 212
	Total Mechanical				26				62,940	
20.	Physics	70	(42) 70	24	(3	x 50	x 24	x 1.5 =	5,400	101
		71	(42) 70	24	(3	x 50	x 24	x 1.5 =	5,400	106
		72	(68) 113	24	(5	x 50	x 24	x 1.5 =	9,000	107,108
		73	(18) 30	24	(1	x 70	x 12	x 1.5 =	1,260	341
		74	(9) 15	24	(1	x 70	x 12	x 1.5 =	1,260	342
		75	(12) 20	24	(1	x 70	x 12	x 1.5 =	1,260	344,371
				Special Areas						
					1 - Atomic Physics Lab				(1,500)	282
					Physics Lecture Room Aux.				(1,500)	
					Work Shop				(1,000)	
					1 - Isotopes Lab.				(1,000)	
	Total Physics				16				28,580	
	TOTAL ENGINEERING				74				169,078	

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs (1965)1969	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. $\frac{1.20}{.80}$ =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
COLLEGE OF CREATIVE ARTS										
21.	Architecture	76	(160) 266	24	(11	x 60	x 20	x 1.5 =	19,800	101,131,132, 133,134
		77	(12) 20	24	(1	x 60	x 25	x 1.5 =	2,250	172
		78	(198) 328	24	(14	x 60	x 20	x 1.5 =	25,200	235,236,244, 245,246
		79	(80) 133	36	(4	x 60	x 20	x 1.5 =	7,200	337,338
		80	(19) 32	36	(1	x 60	x 20	x 1.5 =	1,800	347,348,358
	Total Architecture				31				56,250	
22.	Art	81	(114) 189	24	(8	x 60	x 25	x 1.5 =	18,000	101,181,182, 183,184,281, 282
		82	(45) 75	24	(3	x 60	x 25	x 1.5 =	6,750	117,118,127, 129,130,225
		83	(57) 94	24	(4	x 60	x 25	x 1.5 =	9,000	119,120,185, 186
	Life Drawing	84	(12) 20	24	(1	x 60	x 25	x 1.5 =	2,250	125,126
	Composition	85	(36) 60	24	(3	x 60	x 25	x 1.5 =	6,750	131,132,141, 231,233
	Sculpture	86	(6) 10	24	(1	x 60	x 25	x 1.5 =	2,250	150
	Recr. Crafts, Metal, Leather Work	87	(30) 50	24	(2	x 60	x 25	x 1.5 =	4,500	170,171,175
	Pottery	88	(6) 10	24	(1	x 60	x 25	x 1.5 =	2,250	173
	Art Ed.	89	(18) 30	24	(1	x 60	x 25	x 1.5 =	2,250	203
	Illus. Painting, Special	90	(27) 45	24	(2	x 60	x 25	x 1.5 =	4,500	235,243,245, 247

1	2 Course	3 Lab. Ref. No.	4 Contact Hours of Labs (1965)1969	5 Planned Use Hrs/Week	6 Number of Labs	7 Planned Station Size Sq.Ft./Sta.	8 Section Size	9 20% Aux. & 80% Util. 1.20/.80 =1.50	10 Total Net Sq. Ft. Lab & Aux	11 Courses Included
	Music	-	-	-	(1				2,000	) Band, Choral, & Orchestra
	Total Art				27				60,500	
	TOTAL CREATIVE ARTS				58				116,750	
COLLEGE OF PHYSICAL EDUCATION										
23.	Physical Educ.									
a.	Men	91	(From Building & Field Comm. Report)						99,350	See Footnote (a)
b.	Women	92	(From Building & Field Comm. Report)						72,750	
	Total Physical Education				2				172,600	
RESERVE OFFICERS TRAINING CORPS										
24.	Military Sci.	93	Storage of uniforms, weapons, arsenal, books, and office space for property custodian and stores clerk, and rifle range. (Does not include drill area)						23,900	
	TOTAL UNIVERSITY				212				604,245	

FOOTNOTE (a)

1969
PHYSICAL EDUCATION
INSTRUCTIONAL LABORATORY CALCULATION (NET SQ. FT.)

			Net Sq. Ft.			
	GROUP	FACILITY	TYPE A-1	TYPE A-2	TYPE A-3	TOTALS
A.	Men	1) Gymnasium	14,000 Wood Floor 14,000 Wood Floor 7,000 Wood Floor	3,500 Wood Floor 2,500 Wood Floor 2,500 Wood Floor 2,500 Wood Floor	3,750 Pool 3,000 Deck	
			(35,000) +	(11,000) +	(6,750) =	(52,750)
		2) Natatorium			3,750 Pool 3,000 Deck 3,750 Pool 3,000 Deck	
					(13,500) =	(13,500)
		3) Service Areas (14,750 Men x 2.28)			=	(33,600)
		TOTAL MEN				(99,850)
B.	Women	1) Gymnasium	14,000 Wood Floor 14,000 Wood Floor 7,000 Wood Floor 7,000 Wood Floor	3,500 Wood Floor 3,500 Wood Floor 2,500 Wood Floor 2,500 Wood Floor	3,750 Pool 3,000 Deck	
			(42,000) +	(12,000) +	(6,750) =	(60,750)
		2) Service Areas (5,250 Women x 2.28)			=	(12,000)
		TOTAL WOMEN				(72,750)
C.	TOTAL MEN AND WOMEN					172,600

TABLE 25 - SUMMARY OF INSTRUCTIONAL LABORATORIES AND AUXILIARY NET SQUARE FEET BY DEPARTMENT
1969 - 20,000 STUDENT ENROLLMENT

Department	Number of Labs.	Total Net Sq. Ft. Labs.
COLLEGE OF LIBERAL ARTS AND SCIENCES		
1. Biology	24	42,975
2. Chemistry	20	33,300
3. Economics	1	1,125
4. English	2	2,825
5. French	3	2,250
6. Geology	3	2,887
7. German	2	1,500
8. Home Economics	9	13,500
9. Psychology	2	1,980
10. Spanish	2	1,500
11. Speech	3	8,500
12. Russian	1	1,250
13. Education	3	4,500
TOTAL LAS	75	118,092
COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION		
14. Management	3	3,825
TOTAL COMMERCE	3	3,825
COLLEGE OF ENGINEERING		
15. Chemical Engineering	3	4,725
16. Civil Engineering	7	20,820
17. Electrical Engineering	22	52,013
18. Mechanical Engineering	26	62,940
19. Physics	16	28,580
TOTAL ENGINEERING	74	169,078
COLLEGE OF CREATIVE ARTS		
20. Architecture	31	56,250
21. Art & Music	27	60,500
TOTAL CREATIVE ARTS	58	116,750
COLLEGE OF PHYSICAL EDUCATION		
22. Physical Education	2	172,600
RESERVE OFFICERS TRAINING CORPS		
23. Military Science	-	23,900
TOTAL UNIVERSITY	212	604,245

TABLE 26 - CALCULATIONS OF RESEARCH AND GRADUATE LABORATORY NET SQUARE FEET
1969 - 20,000 STUDENT ENROLLMENT

	1	2	3	4	5	6	7	8	9	10
	U-C 1958-59 DATA			PROPOSED CUD DATA						
	Total F.T.E. Staff	Total[1] Research Sq. Ft.	Sq. Ft. Research Per F.T.E. Staff	Number F.T.E. Staff 1969	Modified Sq. Ft. Research Per U-C F.T.E. Staff	Assumed CUD Research & Grad. Lab. Sq. Ft.	Auxiliary (40%) Sq. Ft.	Total Sq.Ft.	Adjustment to Total 150,000 Sq. Ft.	Adjusted Total Net Sq. Ft.
COLLEGE OF LIBERAL ARTS AND SCIENCES										
1. Biology	151.57	22,867	151	101	150	15,150	6,060	21,210		
2. Chemistry	161.85	39,248	243	87	150	13,050	5,220	18,270	+ 3,448 =	21,718
3. Economics	42.59	---	---	35	---	---	---	---		
4. English	210.75	264	---	172	---	---	---	---		
5. French	24.66	---	---	31	---	---	---	---		
6. Geography	16.98	---	---	5	---	---	---	---		
7. Geology	27.66	2,695	97	21	100	2,100	840	2,940		
8. German	18.42	210	11	17	10	170	68	238		
9. History	31.84	---	---	43	---	---	---	---		
10. Home Economics	58.00	6,344	109	23	110	2,530	1,012	3,542		
11. Mathematics	104.33	897	9	108	10	1,080	432	1,512		
12. Philosophy	16.92	---	---	19	---	---	---	---		
13. Psychology	58.96	5,129	87	34	90	3,060	1,224	4,284		
14. Political Science	17.07	---	---	16	---	---	---	---		
15. Soc. and Anthro.	39.95	---	---	16	---	1,200	800	2,000		
16. Spanish	23.37	---	---	16	---	---	---	---		
17. Speech	52.59	837	16	22	20	440	176	616		
18. Russian	4.00	---	---	7	---	---	---	---		
19. Classics	6.10	---	---	3	---	---	---	---		
20. Education	193.45	7,076	37	42	40	1,680	672	2,352		
21. Library Science	11.30	---	---	8	---	---	---	---		
TOTAL COLLEGE	1,272.36	85,567		826		40,460	16,504	56,964	+ 3,448 =	60,412
COLLEGE OF COMMERCE & BUSINESS ADMIN.										
22. Accountancy	31.75	---	---	26	---	---	---	---		
23. Finance	15.08	---	---	8	---	---	---	---		

	1	2	3	4	5	6	7	8	9	10
	U-C 1958-59 DATA			PROPOSED CUD DATA						
	Total F.T.E. Staff	Total[1] Research Sq. Ft.	Sq. Ft. Research Per F.T.E. Staff	Number F.T.E. Staff 1969	Modified Sq. Ft. Research Per U-C F.T.E. Staff	Assumed CUD Research & Grad. Lab. Sq. Ft.	Auxiliary (40%) Sq. Ft.	Total Sq.Ft.	Adjust-ment to Total 150,000 Sq. Ft.	Adjusted Total Net Sq. Ft.
24. Marketing	14.35	---	---	11	---	---	---	---		
25. Management	32.90	---	---	23	---	---	---	---		
TOTAL COLLEGE	94.08			68						
COLLEGE OF ENGINEERING										
26. Chemical Eng.	18.59	19,620	1,055	4	150	600	240	840	=	840
27. Civil Engineering	105.23	32,678	311	58	200	11,600	4,640	16,240	3,447 =	19,687
28. Electrical Eng.	125.21	26,289	210	94	200	18,800	7,520	26,320	3,448 =	29,768
29. Mechanical Eng.	100.53	11,655	116	91	120	10,920	4,368	15,288	3,447 =	18,735
30. Physics	111.72	35,355	316	76	150	11,400	4,560	15,960	3,448 =	19,408
TOTAL COLLEGE	461.28	125,597		323		53,320	21,328	74,648	+13,790 =	88,438
COLLEGE OF CREATIVE ARTS										
31. Architecture	46.42	1,654	36	64	---	---	---	---		
32. Art and Music	121.46	6,366	52	45	50	2,250	900	3,150		
TOTAL COLLEGE	167.88	8,020		109		2,250	900	3,150	- ---	3,150
COLLEGE OF PHYSICAL EDUCATION										
33. P. E. for Men	32.63	1,715	53	49	---	---	---	---		
34. Recreation	7.12	---	---	9	---	---	---	---		
35. P. E. for Women	17.40	---	---	28	---	---	---	---		
TOTAL COLLEGE	57.15	1,715		86						
RESERVE OFFICERS TRAINING CORPS										
36. Military Science	64.70	---	---	16	---	---	---	---		
TOTAL CORPS	64.70			16						
TOTAL UNIVERSITY	2,117.45	220,899		1,428		96,030	38,732	(134,762	+17,238 =	152,000)

[1] Research space is the area that is existing now and may not be adequate. A detailed analysis is needed to determine whether existing space is adequate.

TABLE 27 - SUMMARY OF NET SQUARE FEET SPACE REQUIREMENTS BY DEPARTMENT
1969 - 20,000 STUDENT ENROLLMENT

	1 Administrative Offices	2 Staff Offices	3 Classrooms & Seminar Rooms	4 Instructional Laboratories (20% Auxiliary Space)	5 Research Space & Graduate Facilities (40% Aux. Space)	6 Total Net Sq. Ft.
COLLEGE OF LIBERAL ARTS AND SCIENCES	2,200					2,200
1. Biology	1,755	10,050	3,550	42,975	21,210	79,540
2. Chemistry	1,445	8,700	8,300	33,300	21,718	73,463
3. Economics	1,026	3,450	4,650	1,125		10,251
4. English	1,971	17,100	18,210	2,825		40,106
5. French	1,026	3,150	4,650	2,250		11,076
6. Geography	918	600	750			2,268
7. Geology	918	2,100	1,200	2,887	2,940	10,045
8. German	918	1,650	2,850	1,500	238	7,156
9. History	1,026	4,350	8,030			13,406
10. Home Economics	918	2,250	1,800	13,500	3,542	22,010
11. Mathematics	1,755	10,800	15,000		1,512	29,067
12. Philosophy	918	1,950	2,280			5,148
13. Psychology	1,026	3,450	4,530	1,980	4,284	15,270
14. Political Science	918	1,650	3,090			5,658
15. Sociology and Anthropology	918	1,650	4,650		2,000	9,218
16. Spanish	918	1,650	2,400	1,500		6,468
17. Speech	918	2,250	3,000	8,500	616	15,284
18. Russian	918	750	1,200	1,250		4,118
19. Classics	918	450	750			2,118
20. Education	1,026	4,200	3,630	4,500	2,352	15,708
21. Library Science	918	750	1,680			3,348
TOTAL COLLEGE	25,272	82,950	96,200	118,092	60,412	382,926
COLLEGE OF COMMERCE & BUSINESS ADMIN.	1,580					1,580
22. Accountancy	1,026	2,700	3,600			7,326
23. Finance	918	750	1,650			3,318
24. Marketing	918	1,050	1,650			3,618
25. Management	918	2,250	3,150	3,825		10,143
TOTAL COLLEGE	5,360	6,750	10,050	3,825	---	25,985

	1 Administrative Offices	2 Staff Offices	3 Classrooms & Seminar Rooms	4 Instructional Laboratories (20% Auxiliary Space)	5 Research Space & Graduate Facilities (40% Aux. Space)	6 Total Net Sq. Ft.
COLLEGE OF ENGINEERING	1,890					1,890
26. Chemical Engineering	918	450	750	4,725	840	7,683
27. Civil Engineering	1,336	5,700	5,400	20,820	19,687	52,943
28. Electrical Engineering	1,445	9,450	9,200	52,013	29,768	101,876
29. Mechanical Engineering	1,445	9,150	4,800	62,940	18,735	97,070
30. Physics	1,336	7,500	7,680	28,580	19,408	64,504
TOTAL COLLEGE	8,370	32,250	27,830	169,078	88,438	325,966
COLLEGE OF CREATIVE ARTS	1,580					1,580
31. Architecture	1,336	6,300	2,900	52,650	---	66,786
32. Art and Music	1,026	4,500	1,680	60,500	3,150	70,736
TOTAL COLLEGE	3,942	10,800	4,580	116,750	3,150	139,222
COLLEGE OF PHYSICAL EDUCATION	1,580					1,580
33. P. E. for Men	1,134	4,950	1,200	99,850	---	107,134
34. Recreation	918	900	900	---	---	2,718
35. P. E. for Women	1,026	2,850	750	72,750	---	77,376
TOTAL COLLEGE	4,658	8,700	2,850	172,600		188,808
RESERVE OFFICERS TRAINING CORPS						
36. Military Science	918	1,650	4,050	23,900	---	30,518
TOTAL CORPS	918	1,650	4,050	23,900		30,518
TOTAL UNIVERSITY	48,520	143,100	145,560	604,245	152,000	1,093,425
% Facility Total is to Total NSF	4.4%	13.1%	13.3%	55.3%	13.9%	100%

TABLE 28 - COMPARISON OF FACILITY REQUIREMENTS
(1963-65-69) BY DEPARTMENT

	1 Administrative Offices			2 Teaching Staff Offices			3 Classrooms & Seminar Rooms		
	Phase I 1963	Phase II 1965	Phase III 1969	Phase I 1963	Phase II 1965	Phase III 1969	Phase I 1963	Phase II 1965	Phase III 1969
Col. of LAS	2,200	2,200	2,200	--	--	--	--	--	--
1. Biology	1,755	1,755	1,755	3,750	6,150	10,050	1,550	2,000	3,550
2. Chemistry	1,445	1,445	1,445	4,950	5,250	8,700	5,750	6,500	8,300
3. Economics	1,026	1,026	1,026	1,350	2,100	3,450	1,350	2,550	4,650
4. English	1,971	1,971	1,971	7,350	10,500	17,100	7,980	10,860	18,210
5. French	1,026	1,026	1,026	1,050	1,950	3,150	1,350	2,550	4,650
6. Geography	918	918	918	450	450	600	750	750	750
7. Geology	918	918	918	600	1,350	2,100	750	750	1,200
8. German	918	918	918	1,350	1,350	1,650	1,650	1,650	2,850
9. History	1,026	1,026	1,026	1,200	2,550	4,350	900	4,800	8,030
10. Home Econ.	918	918	918	750	1,350	2,250	750	750	1,800
11. Mathematics	1,755	1,755	1,755	5,100	6,450	10,800	7,650	8,850	15,000
12. Philosophy	918	918	918	300	1,200	1,950	930	1,830	2,280
13. Psychology	1,206	1,026	1,026	600	1,950	3,450	1,080	1,830	4,530
14. Political Sc.	918	918	918	300	900	1,650	630	2,010	3,090
15. Soc. & Anth.	918	918	918	600	900	1,650	750	1,200	4,650
16. Spanish	918	918	918	450	1,050	1,650	750	1,200	2,400
17. Speech	918	918	918	450	1,350	2,250	450	1,650	3,000
18. Russian	918	918	918	300	450	750	450	750	1,200
19. Classics	918	918	918	150	300	450	300	750	750
20. Education	1,026	1,026	1,026	300	2,550	4,200	450	2,730	3,630
21. Library Sc.	918	918	918	150	450	750	630	750	1,680
TOTAL COLLEGE	25,272	25,272	25,272	31,500	50,550	82,950	36,850	56,710	96,200
College of Com.	1,580	1,580	1,580	--	--	--	--	--	--
22. Accountancy	1,026	1,026	1,026	900	1,650	2,700	900	2,250	3,600
23. Finance	918	918	918	--	450	750	--	1,200	1,650
24. Marketing	918	918	918	150	750	1,050	450	900	1,650
25. Management	918	918	918	300	1,350	2,250	--	1,800	3,150
TOTAL COLLEGE	5,360	5,360	5,360	1,350	4,200	6,750	1,350	6,150	10,050

	1 Administrative Offices			2 Teaching Staff Offices			3 Classrooms & Seminar Rooms		
	Phase I 1963	Phase II 1965	Phase III 1969	Phase I 1963	Phase II 1965	Phase III 1969	Phase I 1963	Phase II 1965	Phase III 1969
College of Engr.	1,890	1,890	1,890	--	--	--	--	--	--
26. Chem. Engr.	918	918	918	--	300	450	--	450	750
27. Civil Engr.	1,336	1,337	1,336	750	3,450	5,700	900	3,300	5,400
28. Elect. Engr.	1,445	1,445	1,445	300	5,550	9,450	--	5,600	9,200
29. Mech. Engr.	1,445	1,445	1,445	2,250	5,550	9,150	450	3,000	4,800
30. Physics	1,336	1,336	1,336	2,250	4,650	7,500	3,000	5,250	7,680
TOTAL COLLEGE	8,370	8,370	8,370	5,550	19,500	32,250	4,350	17,600	27,830
College of Creative Arts	1,580	1,580	1,580	--	--	--	--	--	--
31. Architecture	1,336	1,336	1,336	900	3,750	6,300	300	1,200	2,900
32. Art & Music	1,026	1,026	1,026	1,050	2,700	4,500	1,230	1,230	1,680
TOTAL COLLEGE	3,942	3,942	3,942	1,950	6,450	10,800	1,530	2,430	4,580
College of P.E.	1,580	1,580	1,580	--	--	--	--	--	--
33. P.E. for Men	1,134	1,134	1,134	2,100	3,000	4,950	300	1,200	1,200
34. Recreation	918	918	918	450	450	900	450	450	900
35. P.E. for Women	1,026	1,026	1,026	450	1,800	2,850	450	450	750
TOTAL COLLEGE	4,658	4,658	4,658	3,000	5,250	8,700	1,200	2,100	2,850
Reserve Officers Training Corps									
36. Military Sci.	918	918	918	300	1,050	1,650	450	2,550	4,050
TOTAL UNIVERSITY	48,520	48,520	48,520	43,650	87,000	143,100	45,730	87,540	145,560

	4 Instructional Labs			5 Research Space			6 Totals		
	Phase I 1963	Phase II 1965	Phase III 1969	Phase I 1963	Phase II 1965	Phase III 1969	Phase I 1963	Phase II 1965	Phase III 1969
College of LAS	--	--	--	--	--	--	2,200	2,200	2,200
1. Biology	21,675	33,975	42,975	--	--	21,210	28,730	43,880	79,540
2. Chemistry	20,100	22,800	33,300	--	--	21,718	32,245	35,995	73,463
3. Economics	1,125	1,125	1,125	--	--	--	4,851	6,801	10,251
4. English	625	2,200	2,825	--	--	--	17,926	25,531	40,106
5. French	750	1,500	2,250	--	--	--	4,176	7,026	11,076
6. Geography	--	--	--	--	--	--	2,118	2,118	2,268
7. Geology	1,050	1,837	2,287	--	--	2,940	3,318	4,855	10,045
8. German	750	750	1,500	--	--	238	4,668	4,668	7,156
9. History	--	--	--	--	--	--	3,126	8,376	13,406
10. Home Economics	7,800	10,500	13,500	--	--	3,542	10,218	13,518	22,010
11. Mathematics	--	--	--	--	--	1,512	14,505	17,055	29,067
12. Philosophy	--	--	--	--	--	--	2,148	3,948	5,148
13. Psychology	900	1,980	1,980	--	--	4,284	3,606	6,786	15,270
14. Political Sci.	--	--	--	--	--	--	1,848	3,828	5,658
15. Soc. & Anthrop.	--	--	--	--	--	2,000	2,268	3,018	9,218
16. Spanish	750	750	1,500	--	--	--	2,868	3,918	6,468
17. Speech	7,250	7,250	8,500	--	--	616	9,068	11,168	15,284
18. Russian	750	750	1,250	--	--	--	2,418	2,868	4,118
19. Classics	--	--	--	--	--	--	1,368	1,968	2,118
20. Education	--	3,000	4,500	--	--	2,532	1,776	9,306	15,708
21. Library Sci.	--	--	--	--	--	--	1,698	2,118	3,348
TOTAL COLLEGE	63,525	88,417	118,092	--	--	60,412	157,147	220,949	328,926
College of Commerce & Business Admin.	--	--	--	--	--	--	1,580	1,580	1,580
22. Accountancy	--	--	--	--	--	--	2,826	4,926	7,326
23. Finance	--	--	--	--	--	--	918	2,568	3,318
24. Marketing	--	--	--	--	--	--	1,518	2,568	3,618
25. Management	3,150	3,825	3,825	--	--	--	4,368	7,893	10,143
TOTAL COLLEGE	3,150	3,825	3,825	--	--	--	11,210	19,535	25,985

	4 Instructional Labs			5 Research Space			6 Totals		
	Phase I	Phase II	Phase III	Phase I	Phase II	Phase III	Phase I	Phase II	Phase III
College of Engr.	--	--	--	--	--	--	1,890	1,890	1,890
26. Chem. Engr.	--	4,725	4,725	--	--	840	918	6,393	7,683
27. Civil Engr.	2,400	20,820	20,820	--	--	19,687	5,386	28,906	52,943
28. Elect. Engr.	3,750	35,026	52,013	--	--	29,768	5,495	47,621	101,876
29. Mech. Engr.	23,100	49,500	62,940	--	--	18,735	27,245	59,495	97,070
30. Physics	17,300	21,380	28,580	--	--	19,408	23,886	32,616	64,504
TOTAL COLLEGE	46,550	131,451	169,078	--	--	88,438	64,820	176,921	325,966
College of Creative Arts	--	--	--	--	--	--	1,580	1,580	1,580
31. Architecture	13,050	34,650	52,650	--	--	--	15,586	40,936	66,786
32. Art & Music	20,000	44,750	60,500	--	--	3,150	23,306	49,706	70,736
TOTAL COLLEGE	33,050	79,400	116,750	--	--	3,150	40,472	92,222	139,222
College of P.E.	--	--	--	--	--	--	1,580	1,580	1,580
33. P.E. for Men	47,000	82,750	90,038	--	--	--	50,534	88,084	97,322
34. Recreation	--	--	--	--	--	--	1,818	1,818	2,718
35. P.E. for Women	26,000	44,750	82,562	--	--	--	27,926	48,026	87,188
TOTAL COLLEGE	73,000	127,500	172,600	--	--	--	81,858	139,508	188,808
Reserve Officers Training Corps									
36. Military Sci.	4,568	15,300	23,900	--	--	--	6,236	19,818	30,518
TOTAL CORPS	4,568	15,300	23,900	--	--	--	6,236	19,818	30,518
TOTAL UNIVERSITY	223,843	445,893	604,245	--	--	152,000	361,743	668,953	1,093,425

APPENDIX - H

SPECIAL ACADEMIC FACILITIES

1963 - 1965 - 1969

TABLE 29 - LIBRARY SPACE ESTIMATES[a]. (NET SQUARE FEET BY FACILITY)
(1963-65-69)

Facility	Phase I 1963 6,000 Enrollment	Phase II 1965 12,000 Enrollment	Phase III 1969 20,000 Enrollment
Stack Space (Books)[b].	22500	35000	54000
Reading Space (Students)[c].	30000	60000	200000
Reading Space (Faculty)	2200[d].	4500[e].	7150[f].
Staff Space	5000[g].	6250[h].	10500[i].
Auditorium	5000	5000	5000
Audio-Visual	2500	3500	5000
Staff Room	1000	1000	1000
Map Room	2000	3000	5000
Documents Room	3500	5000	7500
Bookbinding & Repair	500	1500	2000
Shipping	---	500	1000
Student Lounge Area	1000	1000	1000
Rare Book Room	1000	1000	1000
Meeting Room	500	500	500
Microfilm Reading Room	1000	1000	1500
Xerox, IBM, and TV	500	1000	1500
Seminar Rooms	---	600	600
Total	78200	130250	304250

Footnotes

a. Estimates submitted by R. B. Downs in a letter to C. S. Havens dated March 5, 1959. The basic figures recommended for book capacity, seating space for faculty and students, and staff space are standard, taken from U. S. Office of Education and Association of College and Research Libraries Statements of Standards.

b. Estimate of R. B. Downs' letter to N. A. Parker dated October 13, 1959. Space allowed on basis of 10 books per square foot.

c. Space for 20% of student body, 25 sq. ft. per student for 1963-65 allow up to 40% for 1969.

d. Space for 10% of 435 faculty, at 50 feet. (Faculty Estimate from Table A.)

e. Space for 10% of 867 faculty, at 50 feet. (Faculty Estimate from Table A.)

f. Space for 10% of 1428 faculty, at 50 feet. (Faculty Estimate from Table A.)

g. Staff space for 20 academic, 20 non-academic at 125 sq. ft.)

h. Staff space for 25 academic, 25 non-academic at 125 sq. ft.} Estimate of R. B. Downs & consultants.

i. Staff space for 42 academic, 42 non-academic at 125 sq. ft.)

TABLE 30 - STUDENT AND FACULTY LOUNGE ESTIMATE (NET SQ. FT.)
(1963-65-69)

Description	Phase I 1963 6,000 Enrollment	Phase II 1965 12,000 Enrollment	Phase III 1969 20,000 Enrollment
A. Net Sq. Ft. Acad. Bldg. Area (Excluding Physical Education, Library, and Student-Faculty Lounge)	279,885	529,445	904,617
B. Number of Buildings (Based on 60,000 Net Sq. Ft. per Building)	5	9	15
C. N.S.F. Lounge Space (Based on 1,000 NSF/ Building)*	5,000	9,000	15,000

* See Section 8 Appendix B.

APPENDIX I

SERVICE DEPARTMENTS SPACE REQUIREMENTS

1963 - 1965 - 1969

TABLE 31 - GENERAL ADMINISTRATION SPACE ESTIMATES[a]. (Net Sq. Ft.)
(1963-65-69)

Department	Phase I 1963 6,000 Enrollment	Phase II 1965 12,000 Enrollment	Phase III 1969 20,000 Enrollment
1. Admissions and Records	4884	6399[b]	8087[b]
2. Broadcasting & Teletorium	15000[b]	15000[b]	15000[b]
3. Business Office	17497[c]	21859[c]	27961[c]
4. Dean of Students incl. Placement	5589[d]	7716[e]	9121[f]
5. Health Service	6119	7682	9602
6. Legal Counsel	652	863	1174
7. Non-Academic Personnel	2730	3213	3746
8. Publications	422	422	422
9. Public Information	963	1396[h]	1632[i]
10. Student Counseling	6640[g]	9170	11380
11. University Administration	2113	2113	2113
12. Board of Trustees Meeting Room	2500	2500	2500
13. Bureau of Inst. Research	969	1147	1540
14. Inactive Record Storage	264	424	616
Total General Administration	66342	79904	94894

Footnotes:

a. Space estimates were compiled by S.U.A. Inc. and were obtained from their summary table "Preliminary Estimates of Space Requirements for Service Departments" dated April 15, 1959 except for Broadcasting.

b. Space estimate for Broadcasting was obtained from "Preliminary Estimated Space Requirements - Two Year Program to 1969, 6,000 Students CUD" dated November 1, 1957. Equivalent amount added for teletoriums (7,500 sq. ft.)

c. Includes bookstore space estimate by S.U.A. Inc.

The following adjustments were made as a result of comments by CUD staff on August 3, 1959:

d. Added 150 sq. ft. for reception & 800 sq. ft. for student activities offices (Total 950 sq. ft.)

e. Added 100 sq. ft. for reception & 800 sq. ft. for student activities offices (Total 900 sq. ft.)

f. Added 50 sq. ft. for reception & 800 sq. ft. for student activities offices (Total 850 sq. ft.)

g. Added 100 sq. ft. for reception & 308 sq. ft. for files (Total 408 sq. ft.)

h. Added 250 sq. ft. for reception & 484 sq. ft. for files (Total 734 sq. ft.)

i. Added 250 sq. ft. for reception & 627 sq. ft. for files (Total 877 sq. ft.)

1. ADMISSIONS AND RECORDS

Personnel	Phase I Number	Phase I Area	Phase II Number	Phase II Area	Phase III Number	Phase III Area
Assoc. Dean-P.O.	1	200	1	200	1	200
Asst. Dean-P.O.	1	150	1	150	1	150
Adm. Officer-P.O.	1	150	1	150	1	150
Recorder-P.O.	1	150	1	150	1	150
Adm. Coun.-P.O.	2	200	3	300	4	400
Asst. Recorder-M.S.O.	2	150	2	150	3	225
Secy. I-P.O.	1	100	1	100	1	100
Secy. II-P.O.	-	-	1	100	-	-
Secy. III-P.O.	-	-	-	-	1	100
Clerk-Steno III-M.S.O.	1	60	-	-	-	-
Chief Clerk-M.S.O.	2	120	2	120	2	120
Clerk-Typist III-M.S.O.	2	100	3	150	4	200
Clerk-Typist II-M.S.O.	4	200	7	350	10	500
Typing Clerk III-M.S.O.	3	150	4	200	5	250
Typing Clerk II-M.S.O.	12	600	20	1,000	27	1,350
Mach. Op. II-M.S.O.	1	50	1	50	1	50
Strkpr.-M.S.O.	1	50	1	50	1	50
TOTAL	35	2,430	49	3,220	63	3,995
Equipment						
Addressograph-Multilith #831	1	100	1	100	1	100
IBM #826	1	100	1	100	2	200
IBM #026	1	60	1	60	1	60
IBM Sorter	1	39	1	39	1	39
Automatic Typewriter	-	-	1	50	1	50
Postage Meter	1	50	1	50	1	50
Switchboard	1	300	1	450	1	600
Vault	1	80	1	80	1	80
Microfilm Reader-Printer	1	100	1	100	1	100
Thermofax Mach.	2	100	2	100	3	150
TOTAL		929		1,129		1,429
Special Areas						
Reception & Student Waiting	1	300	1	300	1	300
Receiving & Stores	1	200	1	300	1	400
Acoustically Treated IBM Areas	2	a	2	a	2	a
Ladies' Rest Room, Lounge & Cloakroom	1	150	1	200	1	250
Men's Rest Room	1	b	1	b	1	b
Conference Room	1	300	1	300	1	300
TOTAL		950		1,100		1,250

P.O. Private Office
M.S.O. Multiple Station Office
a Space allocated under "Equipment".
b Part of building core facilities. (Tare Space)

	Phase I		Phase II		Phase III	
	Number	Area	Number	Area	Number	Area
Files	25	275	50	550	83	913
Work Area		300		400		500
ADMISSIONS AND RECORDS GRAND TOTAL		4,884		6,399		8,087

2. BROADCASTING AND TELETORIUM

Personnel	Phase I Number	Phase I Area	Phase II Number	Phase II Area	Phase III Number	Phase III Area
Administrative Head	1	150	1	150	1	150
Ass't. Admin. Head	1	150	1	150	1	150
Secretary	1	80	1	80	1	80
Technicians	4	400	4	400	4	400
TOTAL	7	780	7	780	7	780
Files, Workroom and Storage		220		220		220
Special Areas						
Conference	1	150	1	150	1	150
Reception Area	1	100	1	100	1	100
Radio Studio	1	800	1	800	1	800
Television Studio	1	2,400	1	2,400	1	2,400
Radio Control Room	1	120	1	120	1	120
Television Control Room	1	250	1	250	1	250
Maintenance Shop	1	200	1	200	1	200
Equipment Room	1	250	1	250	1	250
Storage	1	2,000	1	2,000	1	2,000
TV & Radio Announcing Booths	1	80	1	80	1	80
Recording Service	1	150	1	150	1	150
TOTAL	11	6,500	11	6,500	11	6,500
TOTAL BROADCASTING		7,500		7,500		7,500
ADDITIONAL TELETORIUM AREA		7,500		7,500		7,500
GRAND TOTAL		15,000		15,000		15,000

3. BUSINESS OFFICE

	Phase I		Phase II		Phase III	
Personnel-Admin	Number	Area	Number	Area	Number	Area
Bus. Mgr.-P.O.	1	200	1	200	1	200
Asst. Bus. Mgr.-P.O.	1	150	1	150	1	150
Purch. Agt.-P.O.	1	150	1	150	1	150
Div. Chief Acct.-P.O.	1	150	1	150	1	150
Secy.-P.O.	2	200	4	400	4	400
Clerk-Steno III-M.S.O.	3	150	2	100	2	100
TOTAL	9	1,000	10	1,150	10	1,150
Personnel-Acct.						
Asst. Chief Acct.-P.O.	-	-	1	100	1	100
Acct. III-M.S.O.	1	54	1	54	1	54
Acct. II-M.S.O.	1	54	2	108	2	108
Acct. I-M.S.O.	-	-	2	108	3	162
Chief Clerk-S.P.O.	1	80	1	80	1	80
Acct. Clerk-M.S.O.	-	-	1	54	1	54
Bkpg. Mach. Op.-M.S.O.	1	60	-	-	-	-
Clerk III-M.S.O.	2	108	2	108	2	108
Clerk II-M.S.O.	-	-	2	108	4	216
Clerk-Typ. III-M.S.O.	1	50	1	50	1	50
Card Punch Op.-M.S.O.	-	-	2	120	2	120
TOTAL	7	406	15	890	18	1,052
Personnel-Purchasing						
Asst. Purch. Agt.-P.O.	1	100	1	100	1	100
Purch. Asst. III-S.P.O.	-	-	1	80	1	80
Purch. Asst. II-S.P.O.	1	80	2	160	3	240
Purch. Asst. I-S.P.O.	-	-	1	80	1	80
Chief Clerk-S.P.O.	1	80	1	80	1	80
Clerk III-M.S.O.	-	-	-	-	2	100
Clerk II-M.S.O.	-	-	1	50	2	100
Clerk-Steno III-M.S.O.	1	50	2	100	2	100
Clerk-Steno II-M.S.O.	-	-	1	50	1	50
Clerk-Typ. III-M.S.O.	-	-	-	-	2	100
Clerk-Typ. II-M.S.O.	1	50	2	100	2	100
Inventory Supv.-M.S.O.	1	50	1	50	1	50
Stores Clerk-M.S.O.	-	-	2	100	2	100
TOTAL	6	410	15	950	21	1,280

Personnel-Cashier	Phase I Number	Phase I Area	Phase II Number	Phase II Area	Phase III Number	Phase III Area
Hd. Cashier-P.O.	1	150	1	150	1	150
Cashier III-Cage	1	a	2	a	2	a
Cashier II-Cage	2	a	2	a	2	a
Clerk-Typ.-M.S.O.	1	50	2	100	2	100
TOTAL	5	200	7	250	7	250
Personnel-Payroll						
Payroll Supv.-P.O.	1	150	1	150	1	150
Payroll Clerk III-M.S.O.	1	54	2	108	3	162
Payroll Clerk II-M.S.O.	2	108	2	108	3	162
Payroll Clerk I-M.S.O.	-	-	1	54	1	54
Clerk-Steno. II-M.S.O.	-	-	-	-	1	54
TOTAL	4	312	6	420	9	582
Personnel-Tabulating						
Tab. Mach. Supv.-P.O.	1	150	1	150	1	150
Asst. Tab. Mach. Supv.-P.O.	-	-	1	100	1	100
Tab. Mach. Op. III-S.A.	1	a	1	a	2	a
Tab. Mach. Op. II-S.A.	1	a	1	a	2	a
Tab. Mach. Op. I-S.A.	1	a	1	a	2	a
Card Punch Op. III-S.A.	1	a	2	a	2	a
Card Punch Op. II-S.A.	1	a	2	a	2	a
Card Punch Op. I-S.A.	-	-	-	-	2	a
TOTAL	6	150	9	250	14	250
Personnel-Auditing						
Asst. Aud.-P.O.	1	100	1	100	1	100
Acct. I-M.S.O.	-	-	1	54	1	54
Acct. II-M.S.O.	1	54	2	108	2	108
Acct. III-M.S.O.	-	-	1	54	2	108
Clerk-Typ.-M.S.O.	1	54	-	-	-	-
Clerk-Steno-M.S.O.	-	-	1	54	1	54
TOTAL	3	208	6	370	7	424

a See Special Areas

S.A. Special Areas

Personnel-Gen. Stores	Phase I Number	Phase I Area	Phase II Number	Phase II Area	Phase III Number	Phase III Area
Rec. Supv.-P.O.	-	-	1	100	1	100
Rec. Clerk-M.S.O.	1	50	1	50	1	50
Driver	-	-	2	b	2	b
Routemen	-	-	2	b	2	b
Strm. Supv.-P.O.	1	100	1	100	1	100
Strkpr.-M.S.O.	1	50	2	100	3	150
Supply Attendent	2	b	1	b	2	b
TOTAL	5	200	10	350	12	400
Personnel-Bookstore						
Bkstr. Mgr.-P.O.	1	150	1	150	1	150
Asst. Bkstr. Mgr.-P.O.	1	100	1	100	1	100
Cashier II-Cage	1	a	1	a	1	a
Cashier I-Cage	2	a	2	a	2	a
Strkpr.-M.S.O.	2	100	2	100	2	100
Bookstore Clerk	2	a	3	a	3	a
Clerk III-M.S.O.	1	50	2	100	2	100
Clerk-Steno III-M.S.O.	1	50	1	50	1	50
Acct. II-M.S.O.	1	50	1	50	1	50
TOTAL	12	500	14	550	14	550
Special Areas						
Payroll and Cashier Paywindow	2	40	2	40	2	40
Cashier Cage	4	320	4	320	4	320
Vault (walk-in)	1	80	1	80	1	80
TOTAL	7	440	7	440	7	440
Tabulating						
407	2	170	3	255	6	510
514	2	110	2	110	4	220
077	2	96	2	96	4	192
083	2	78	2	78	4	156
604	1	100	1	100	2	200
557	1	56	1	56	2	112
024	2	120	3	180	6	360
056	2	120	2	120	4	240
TOTAL	14	850	16	995	32	1,990

a Work station in selling area
b No work station required

Special Areas (Cont'd)	Phase I Number	Phase I Area	Phase II Number	Phase II Area	Phase III Number	Phase III Area
General Stores & Rec.		8,200		8,200		8,200
TOTAL		8,200		8,200		8,200
Bookstore						
Vault (Walk-In)	1	80	1	80	1	80
Selling Area		2,000		3,000		5,000
Storage Area		1,037		1,809		3,559
Rec. & Marking Area		300		450		700
TOTAL	1	3,417	1	5,339	1	9,339
Reception Areas						
Administration		100		100		100
Purchasing		100		100		100
TOTAL		200		200		200
Files						
Administration	5	55	5	55	5	55
Accounting	7	77	15	165	18	198
Purchasing	6	66	15	165	21	231
Cashier	5	55	7	77	7	77
Payroll	4	44	6	66	9	99
Tabulating	6	72	9	108	14	168
Auditing	3	33	6	66	7	77
General Stores	3	33	5	55	6	66
Bookstore	6	66	7	77	7	77
TOTAL	45	501	75	834	94	1,048
Work Areas						
Administration		67		67		67
Accounting		134		151		168
Purchasing		134		151		168
Payroll		67		117		134
Tabulating		67		84		151
Auditing		17		67		84
Bookstore		17		34		34
TOTAL		503		671		806
BUSINESS OFFICE GRAND TOTAL		17,497		21,859		27,961

4. DEAN OF STUDENTS

Personnel	Phase I Number	Phase I Area	Phase II Number	Phase II Area	Phase III Number	Phase III Area
Dean of Students-P.O.	1	250	1	250	1	250
Dean of Men-P.O.	1	200	1	200	1	200
Dean of Women-P.O.	1	200	1	200	1	200
Dean of Foreign Students & Housing-P.O.	-	-	1	150	1	150
Assoc. Dean of Men-P.O.	1	150	1	150	1	150
Assoc. Dean of Women-P.O.	-	-	1	150	1	150
Asst. Dean of Men-P.O.	1	100	3	300	3	300
Asst. Dean of Women-P.O.	2	200	3	300	4	400
Asst. to Dean of Foreign Students & Housing-S.P.O.	-	-	-	-	1	100
Coordinator & Director of Placement-P.O.	-	-	-	-	1	150
Security Officer-P.O.	-	-	1	150	1	150
Asst. Sec. Off.-S.P.O.	-	-	-	-	1	100
Asst. Coordinator of Student Activities Program-P.O.	-	-	-	-	1	100
Secy-P.O.	3	300	3	300	4	400
Interviewer-M.S.O.	2	60	2	60	2	60
Chief Clerk-M.S.O.	1	50	1	50	1	50
Clerk-Steno III-M.S.O.	1	50	2	100	2	100
Clerk-Steno II-M.S.O.	3	150	8	400	9	450
Clerk-Typ. II-M.S.O.	-	-	1	50	3	150
Clerk-Steno III-Recept.	2	400	2	400	2	400
Clerk-Typ. II-Recept.	1	200	1	200	1	200
TOTAL	20	2,310	33	3,410	42	4,210
Files	9	99	16	176	21	231
Work Areas	3	300	3	450	3	600
Special Areas						
Conference Rooms	2	600	4	1,200	5	1,500
Staff Lounges (inc. Kitchenettes)	2	500	2	500	2	500
Reception Area	1	300	1	300	1	300
Storage Room	1	200	1	300	1	400
Student Activities Room	1	1,000	1	1,000	1	1,000
Vault	1	80	1	80	1	80
Duplicating Room	1	200	1	300	1	400
TOTAL	9	2,880	11	3,680	12	4,180
DEAN OF STUDENTS GRAND TOTAL		5,589		7,716		9,121

5. HEALTH SERVICE

The table below shows the allocation of space by type for the Health Service.

	Phase I		Phase II		Phase III	
Personnel	Number	Area	Number	Area	Number	Area
Dir. of H. S.-P.O.	1	200	1	200	1	200
Phys. DY100-P.O.	3	300	4	400	7	700
Phys. DY50-P.O.	4	400	4	400	4	400
Instructors DY20-M.S.O.	-	-	2	100	9	450
Admin. Asst.-P.O.	1	100	1	100	1	100
Secy.-P.O.	1	100	1	100	1	100
Clerk-Typ.II	2	100	3	150	6	300
Receptionist	1	50	1	50	1	50
Staff Nurse-S.P.O.	4	300	5	375	6	450
Clinical Lab. Tech.-S.A.	1	-	1	-	1	-
X-ray Tech.-S.A.	1	-	1	-	1	-
Roentgenologist-S.A.	1	-	1	-	1	-
Psychiatrist-S.A.	1	-	1	-	1	-
TOTAL	21	1,550	26	1,875	40	2,750
Special Areas						
Wards (2 bed)	8	960	12	1,440	15	1,800
Conf. Room & Library	1	350	1	400	1	500
Drug Stock Room	1	100	1	100	1	100
General Stores	1	400	1	400	1	400
X-ray Room	1	175	1	175	1	175
Dark Room	1	60	1	60	1	60
Clinical Lab.	1	200	1	200	1	200
Files	34	374	62	682	97	1,067
Staff Dressing Rooms	2	240	2	240	2	240
Exam. Rooms	3	300	4	400	6	600
Minor Surgery & Dressing Room	1	250	2	500	2	500
Sterilizing Room	1	60	1	60	1	60
Physical Therapy Room	2	400	2	400	2	400
Group Exam Room	1	500	1	500	1	500
Reception Area	1	200	1	250	1	250
TOTAL	59	4,569	93	5,807	133	6,852
HEALTH SERVICE GRAND TOTAL		6,119		7,682		9,602

6. LEGAL COUNSEL

The table below shows the allocation of space by type for Legal Counsel.

Personnel	Phase I Number	Phase I Area	Phase II Number	Phase II Area	Phase III Number	Phase III Area
Legal Counsel-P.O.	1	200	1	200	1	200
Asst. to L.C.-P.O.	1	100	2	200	4	400
Secy.-M.S.O.	-	-	1	50	2	100
TOTAL	2	300	4	450	7	700
Special Areas						
Reception		100		100		100
Law Library		100		150		200
Vault		80		80		80
TOTAL		280		330		380
Work Area		50		50		50
Files	2	22	3	33	4	44
LEGAL COUNSEL GRAND TOTAL		652		863		1,174

7. NON-ACADEMIC PERSONNEL

The table below shows the allocation of space by type for Non-Academic Personnel.

Personnel	Phase I Number	Phase I Area	Phase II Number	Phase II Area	Phase III Number	Phase III Area
Adm. Officer-P.O.	1	150	1	150	1	150
Adm. Asst.-P.O.	-	-	1	100	1	100
Pers. Asst.-P.O.	1	100	1	100	1	100
Placement Officer-P.O.	1	100	1	100	2	200
Secy.-S.P.O.	-	-	-	-	1	100
Typ. & Steno-M.S.O.	1	50	3	150	5	250
Visiting Nurse-S.P.O.	1	100	1	100	1	100
Steno-Ser. Supv.-P.O.	1	100	1	100	1	100
Multilith Op.-M.S.O.	1	50	2	100	2	100
Mimeo Op.-M.S.O.	2	100	2	100	3	150
Utility Duplic. Mach. Op.-M.S.O.	1	50	2	100	3	150
TOTAL	10	800	15	1,100	21	1,500
Special Equipment						
Absence Rec. File Control Desk	1	50	1	50	1	50
Offset Printing Mach.	2	100	2	100	2	100
Mimeo Machine	2	100	3	150	3	150
Ditto Machine	1	50	1	50	1	50
Photocopy Equip.	1	100	1	100	1	100
Darkroom Equip. & Facil.	1	80	1	80	1	80
Negative Exposure Unit	1	60	1	60	1	60
Paper Cutter	1	35	1	35	1	35
Folding Machine	1	25	1	25	1	25
Collating Equip.	1	100	1	100	1	100
Varityper	1	50	1	50	1	50
Punch Press	1	35	1	35	1	35
Addressograph	1	60	1	60	1	60
Embossograph Mach.	2	80	2	80	2	80
TOTAL	17	925	18	975	18	975
Special Areas						
Reception Room	1	150	1	150	1	150
Testing Room	1	200	1	200	1	200
Conference Room	1	300	1	300	1	300
Steno Service Workroom	1	100	1	150	1	200
Steno Service Storage	1	100	1	150	1	200
Paper Storage	-	100	-	100	-	100
TOTAL	5	950	5	1,050	5	1,150
Files	5	55	8	88	11	121
NON-ACADEMIC PERSONNEL GRAND TOTAL		2,730		3,213		3,746

8. PUBLICATIONS

The table below shows the allocation of space by type for Publications.

Personnel	Phase I Number	Phase I Area	Phase II Number	Phase II Area	Phase III Number	Phase III Area
Directors-S.P.O.	1	150	1	150	1	150
Asst. Dir. & Secy.-S.P.O.	1	50	1	50	1	50
Part-time Clerical-M.S.O.	1	50	1	50	1	50
TOTAL	3	250	3	250	3	250
Special Equipment						
Ditto or Mimeo	1	50	1	50	1	50
Work Table	2	100	2	100	2	100
TOTAL	3	150	3	150	3	150
Files	2	22	2	22	2	22
PUBLICATIONS GRAND TOTAL		422		422		422

9. PUBLIC INFORMATION

The table below shows the space allocations by type for Public Information.

	Phase I		Phase II		Phase III	
Personnel	Number	Area	Number	Area	Number	Area
Director-P.O.	1	200	1	200	1	200
Asst. Dir.-P.O.	1	150	1	150	1	150
Athletic Publicity Dir.-P.O.	-	-	1	150	1	150
Editorial Asst.-S.P.O.	1	75	2	150	3	225
Secy.-S.P.O.	1	75	2	150	2	150
Clerk-Recept.-M.S.O.	1	50	2	100	3	150
Student Clerical Help-No Station	2	-	4	-	6	-
TOTAL	7	550	13	900	17	1,025
Special Areas						
Duplicating & Mail Room	1	200	1	250	1	300
Reception Area	1	100	1	100	1	150
Dark Room	1	80	1	80	1	80
TOTAL	3	380	3	430	3	530
Files	3	33	6	66	7	77
PUBLIC INFORMATION GRAND TOTAL		963		1,396		1,632

10. STUDENT COUNSELING

The table below shows the space allocation by type for Student Counseling.

	Phase I		Phase II		Phase III	
Personnel	Number	Area	Number	Area	Number	Area
Administrative Head-P.O.	1	200	1	200	1	200
Asst. Adm.Hd.-P.O.	2	200	2	200	2	200
Counselor-P.O.	12	1,200	17	1,700	25	2,500
Psychometrist-I P.O. & M.S.O.	3	250	4	325	6	475
Receptionist	2	100	3	150	4	200
Clerical Personnel	3	200	4	250	7	450
TOTAL	23	2,150	31	2,825	45	4,125
Special Equipment						
IBM Scoring Machine	1	50	2	100	2	100
IBM Punch Machine	1	50	1	50	1	50
TOTAL	2	100	3	150	3	150
Special Areas						
Vocational Ed. Lib.	1	300	1	300	1	400
Psychological Test Lab.	1	475	2	950	2	950
Test Workroom	1	250	1	250	1	250
Stat. & Research Lab.	1	150	1	150	1	200
Test Supplies Storage Room	1	150	1	250	1	300
Group Coun. Room	4	700	6	1,050	7	1,225
Grad. Stu. Study Room	-	-	-	-	1	150
Reading Skills Lab.	2	1,000	3	1,500	3	1,500
Children's Therapy Room	-	-	-	-	1	150
Storage for Reading Skills Lab.	1	150	1	150	1	150
Obser. & Test. Cubicle	2	150	2	150	2	150
Adm. Conf. Room	1	300	1	300	1	300
Reception Area	1	300	1	450	1	450
TOTAL	16	3,925	20	5,500	23	6,175
Files	12	440	16	660	23	880
Clerical Supply Area		25		35		50
STUDENT COUNSELING GRAND TOTAL		6,640		9,170		11,380

11. UNIVERSITY ADMINISTRATION

The table below shows the space allocation by type for University Administration.

	Phase I		Phase II		Phase III	
Personnel	Number	Area	Number	Area	Number	Area
Administrative Head-P.O.	1	400	1	400	1	400
Asst. Adm. Hd.-P.O.	2	400	2	400	2	400
Secy.-M.S.O.	2	150	2	150	2	150
Steno-Clerk-M.S.O.	2	120	2	120	2	120
TOTAL	7	1,070	7	1,070	7	1,070
Special Equipment						
Thermofax Dup. Machine	1	50	1	50	1	50
Ditto Machine	1	50	1	50	1	50
Vault	1	80	1	80	1	80
TOTAL	3	180	3	180	3	180
Special Areas						
Conference Room	1	575	1	575	1	575
Stock Room	1	80	1	80	1	80
Priv. Toilet Fac.	2	120	2	120	2	120
TOTAL	4	775	4	775	4	775
Files	8	88	8	88	8	88
UNIVERSITY ADMINISTRATION GRAND TOTAL		2,113		2,113		2,113
Board of Trustees Meeting Room		2,500		2,500		2,500

12. BUREAU OF INSTITUTIONAL RESEARCH

The table below shows the allocation of space by type for Bureau of Institutional Research.

	Phase I		Phase II		Phase III	
Personnel	Number	Area	Number	Area	Number	Area
Admin. Head-P.O.	1	150	1	150	1	150
Asst. Adm. Hd.-P.O.	-	-	1	100	1	100
Sr. Staff Member-P.O.	-	-	-	-	1	100
Non-Academic Staff-S.P.O.	1	80	1	80	2	160
Non-Academic Clerical-M.S.O.	2	100	3	150	5	250
Research Staff-S.P.O.	-	-	-	-	1	80
TOTAL	4	330	6	480	11	840
Special Areas						
Library		250		250		250
Conference Room		300		300		300
Clerical Work Area		67		84		84
TOTAL		617		634		634
Files	2	22	3	33	6	66
BUREAU OF INSTITUTIONAL RESEARCH GRAND TOTAL		969		1,147		1,540

13. INACTIVE RECORD STORAGE

In allowing for dead file storage and microfilm space, for files not weeded out and destroyed, a reasonable amount for this purpose is estimated to be approximately one-third of the live filing cabinets currently in use.

In Phase I, one-third of the filing cabinets currently in use comes to about 250 file drawers; in Phase II, approximately 415 file drawers, in Phase III, approximately 600 file drawers. The most economical way, in terms of space, is to store relatively inactive records in a vertical filing cabinet. Legal size cabinets of this type measure approximately 36" x 18" x 78" and will hold 204 inches of filed material. This type of cabinet, with access space, requires only eight square feet of floor space. For Phase I this would require 264 square feet; for Phase II, 424 square feet; for Phase III, 616 square feet.

In the Tabulating section of the Business Office, projections are made in terms of twelve-drawer punch card files. Otherwise, all file cabinets refer to standard-size legal files.

The table following is a summary of the preliminary estimates of space requirements for service departments. A more detailed breakdown of each category follows the summary table.

TABLE 32 - PHYSICAL PLANT SPACE ESTIMATES[a.] (NET SQ. FT.)
(1963-65-69)

Department	Phase I 1963 6,000 Enroll	Phase II 1965 12,000 Enroll	Phase III 1969 20,000 Enroll
1. Administration & Engineering	9750[b.]	9750[c.]	9750
2. Operations	21500	26850	47700
3. Sanitation & Safety	6800	6800	7100
4. Utilities	1400	1400	2600
5. Building Maintenance	23700	24100	35700
6. Stores Operation	15500	22750	40000
7. Space Planning Office	1300[d.]	1400[d.]	1800[d.]
TOTAL PHYSICAL PLANT (Bldg. Area Only)	79950	93050	144650

FOOTNOTES

a. Space estimate submitted by Mr. J. Doaks in a letter to Mr. C. S. Havens dated 2-18-59 except where otherwise noted.
b. Added 3,000 NSF as per CSH letter dated 4-17-59.
c. Added 2,100 NSF as per CSH letter dated 4-17-59.
d. Added as per C. S. Havens letter to J. V. Edsall dated 4-13-59.
e. Outside yard areas included in table of Physical Plant land requirements.

PHYSICAL PLANT DEPARTMENT
SUMMARY
MANPOWER AND FACILITIES

	MANPOWER (Day & Night Personnel)			FACILITIES (Net Sq. Ft.)		
	8,000 Enroll	12,000 Enroll	20,000 Enroll	8,000 Enroll	12,000 Enroll	20,000 Enroll
1. Administration - Engineering	63	63	63	9,750	9,750	9,750
2. Operations	106	151	283	21,500	26,850	47,700
3. Sanitation and Safety	24	40	42	6,800	6,800	7,100
4. Utilities[1]	20	22	30	1,400	1,400	2,600
5. Building Maintenance	77	100	180	23,700	24,100	35,700
6. Stores Operation	6	8	12	15,500	22,750	40,000
Sub-Totals	(296)	(384)	(610)	(78,650)	(91,650)	(142,850)
7. Space Planning Office	4	5	8	1,300	1,400	1,800
GRAND TOTAL PHYSICAL PLANT	300	389	618	79,950	93,050	144,650

[1] Areas exclude heating plant and load centers.

CHICAGO UNDERGRADUATE DIVISION
PHYSICAL PLANT-MANPOWER & FACILITIES 2/18/59

FACILITIES
STUDENTS

		8,000	12,000	20,000
BASIC DATA				
1.	Land	____	130 acres	____
2.	Land Coverage	____	25 %	____
3.	Buildings	4 floors, ave. 80,000 sq. ft. gross		
4.	Floor area-gross	1,250,000	1,920,000	3,800,000
5.	Volume-14' fl. to fl.	17,500,000	26,900,000	53,200,000
6.	No. of Building	16	24	48
7.	Steam demand (4.0"/m.cu.ft.)	70000#/hr	107600#/hr	212800#/hr
8.	Steam plant-No. Boilers	2	3	4
	Fuel	____	Coal & Gas	____
9.	Electric-Source	____	Purchase	____
	-delu. pt.	____	Load Centers	____
	-No. L. C's	3	4	6
	-Demand KW	4500	6600	12800
10.	Air Cond.-Elect.	____	50%	____
11.	Water-Source	Purchase-1 Meter		
12.	Sewer Service	Own-Within boundry		
13.	Trash Disposal	Own-35 Mi. Haul-Round Trip		
14.	Park Lot-Capacity	2700	4000	7000
15.	Police Service	____	Own	____
16.	Watch Serv. Freq.	____	1 hour	____
17.	Fire Protection	____	Own	____
18.	Mail Service	Own	Campus & U.S.	
19.	Tele. Exchange	____	Own	____
20.	Stores & Warehousing	x	x	x
21.	Audio-Visual Service	x	x	x
22.	Car Pool-Gen'l. Univ.	10 pass. cars & wagons/exclusive of 4 trucks & busses /service vehicles & apparatus		
23.	Greenhouse Facilities	____	None	____
24.	P. P.&J.O. Accounting	x	x	x

	MANPOWER			FACILITIES SQ. FT.		
	8,000	12,000	20,000	8,000	12,000	20,000
1. Administration-Engineering						
1. Dept. Head, Supts.' & Assts.'	6	8	10	900	1,200	1,500
2. Prof. Engrs. & Assts.'	4	6	8	600	900	1,200
3. Estimating & Records	1	1	2	250	250	350
4. Accounting & Files	6	8	12	600	800	1,200
5. Routing & Files	2	3	4	300	300	400
6. Clerical & Files	5	6	7	600	700	800
7. Tele. Sq. Bd., & Exchange	8	9	10	1,500	1,500	1,500
8. Drafting & Files	2	3	4	600	600	600
9. Project Engrs.	2	3	4	300	300	400
10. Building Inspector	1	1	2	100	100	200
11. Conference & Recept.	----	----	----	400[2]	400[2]	600[3]
12. Storage	----	----	----	600	600	1,000
TOTALS	37	48	63	6,750 sq.ft.	7,650 sq.ft.	9,750 sq.ft.
Initial Planning & Supervision Requirement	26	15	-	3,000	2,100	-
	63	63	63	9,750	9,750	9,750

	MANPOWER			FACILITIES SQ. FT.		
	8,000	12,000	20,000	8,000	12,000	20,000
2. Operations Section						
1. Police & Watch						
Supervision & M.V.O.	3	3	5	600	600	800
Officers	15	21	39	300	400	600
Sub-Total	(18)	(24)	(44)	(900)	(1,000)	(1,400)
2. Custodial						
Supervision	3	5	10	250	350	500
Janitors & Headquarters	63	96	190	300	400	600
Sub-Total	(66)	(101)	(200)	(550)	(750)	(1100)
3. Mail Service						
Supervision	1	1	1	100	100	100
Mail Messengers	3	4	8	150	200	400
Sub-Total	(4)	(5)	(9)	(250)	(300)	(500)
4. Gen'l Univ. Warehouse	____	____	(1)	(10,000)	(15,000)	(30,000)
5. Grounds Maint.						
Shop & Headquarters	7	8	11	600	600	800
Matl. & Equip. Storage	____	____	____	1,500	1,500	3,000
Sub-Total	(7)	(8)	(11)	(2,100)	(2,100)	(3,800)
6. Transportation						
Equipment Storage	____	____	____	4,000	4,000	6,000
Drivers, Operators, etc.	8	9	12	400	400	600
	(8)	(9)	(12)	(4,400)	(4,400)	(6,600)
7. Car Pool-Garage						
Office & Parts	____	____	____	300	300	300
Repair & Service	3	4	6	3,000	3,000	4,000
Sub-Total	(3)	(4)	(6)	(3,300)	(3,300)	(4,300)
TOTALS	106	151	283	21,500sq.ft.	26,850sq.ft.	47,700 sq.ft.

	MANPOWER			FACILITIES SQ. FT.		
	8,000	12,000	20,000	8,000	12,000	20,000
3. Sanitation & Safety Section						
1. Fire Protection	22	37	37	6,500	6,500	6,500
2. Water Treatment & Distr.	2	3	4	300	300	600
3. Pest Control	—	—	1	—	—	—
TOTALS	24	40	42	6,800sq.ft.	6,800sq.ft.	7,100sq.ft.
4. Utilities Section						
1. Heating Plant	14	15	16	—	Heating Plant	—
2. Steam Distr. Shop	4	5	10	1,000	1,000	2,000
3. Elect. Distr.	2	2	4	400	400	600
TOTALS	20	22	30	1,400sq.ft.	1,400sq.ft.	2,600sq.ft.

	MANPOWER			FACILITIES SQ. FT.		
	8,000	12,000	20,000	8,000	12,000	20,000
5. Bldg. Maintenance Section						
1. Carpenter Shop	8	12	24	600	600	1,200
2. Mill	2	2	4	2,000	2,000	4,000
3. Furniture Shop	3	3	6	1,000	1,000	2,000
4. Elect. & Sound Tech.; Fixture Wash. & Light Bulb Replacement, & Elevator Mechanics	15	20	40	3,000	3,000	6,000
5. Plumbers & Steamfitters	15	20	40	2,000	2,000	4,000
6. Paint & Glass Shop	10	15	30	2,000	2,000	2,000
7. Sheet Metal & Roofers	6	6	8	2,000	2,000	2,000
8. Masons & Constr. Labor	8	12	16	1,500	1,500	1,500
9. Machine Shop	6	6	8	2,000	2,000	2,500
10. Locksmith & Keys	2	2	2	500	500	500
11. Tool Crib.	2	2	2	3,000	3,000	4,000
12. Meeting Room	----	----	----	500	500	500
13. Locker & Wash Room	----	----	----	1,600	2,000	3,500
14. Equipment Storage	----	----	----	2,000	2,000	2,000
TOTALS	77	100	180	23,700sq.ft.	24,100sq.ft.	35,700sq.ft.

	MANPOWER			FACILITIES SQ. FT.		
	8,000	12,000	20,000	8,000	12,000	20,000
6. Stores Operation						
1. Office, Files & Records	2	3	5	500	750	1,000
2. Receiving, Shipping & Storage	4	5	7	15,000	22,000	39,000
TOTALS	6	8	12	15,500sq.ft.	22,750sq.ft.	40,000sq.ft.

7. Estimate of Space Required for a Space Planning Office

	8,000		12,000		20,000	
	Personnel	Sq. Ft.	Personnel	Sq. Ft.	Personnel	Sq. Ft.
Director	1	150	1	150	1	150
Assistants	1	120	2	200	4	400
Draftsman	1	80	1	80	2	160
Secretary	1	80	1	80	1	80
Reception		150		150		150
File Work & Storage		220		240		360
Sub Total		(800)		(900)		(1,300)
Meeting Room for Bldg. Program Committee, etc.		500		500		500
		1,300		1,400		1,800

TABLE 33 - UNION FACILITY SPACE ESTIMATES[a.] (Net Sq. Ft.)
(1963-65-69)

	Phase I 1963 6,000 Enrollment	Phase II 1965 12,000 Enrollment	Phase III 1969 20,000 Enrollment
Multi-Purpose Room	8,000	8,000	8,000
Lounges	8,000	8,000	10,500
Music Lounges	1,700	1,700	3,200
Browsing Room	1,200	1,200	1,200
Television Rooms	1,500	1,500	1,500
Main Desk	300	300	300
Check Rooms	1,200	1,200	2,600
Currency Exchange	100[b.]	100[b.]	100[b.]
Post Office	--	--	--
Safe	75	75	75
University Information & Reservations	1,000	1,000	1,000
University Lost & Found	200	200	200
Staff Offices	2,500	2,500	2,500
Duplicating Room	300[e.]	300[e.]	300[e.]
Activity Rooms	7,000	7,000	9,000
Bowling Alleys	8,000	8,000	8,000
Billard and Table Tennis Room	3,950	3,950	3,950
Table Tennis	--	--	1,750
Arts and Crafts Shop	5,000	5,000	5,000
Dark Rooms	240[c.]	240[c.]	240[c.]
Bookstore	--	--	--
Meeting Rooms	4,600	4,600	7,600
Art Gallery	--	--	1,250
Conference-Theater	--	--	6,660
Cafeteria	7,500	7,500	11,250
Snack Bar	7,500	7,500	15,000
Service Dining Room	2,625	2,625	2,625
Main Kitchen	12,000	12,000	16,000
Auxiliary Service Areas	2,000	2,000	2,000
Commutors Lunch Room	--	--	7,500
Public Telephones	200	200	200
Storage Rooms	5,000	5,000	7,500
Total NSF Union Facilities	91,690	91,690	137,000

TABLE 33 - (Con't.)

Footnotes:

a. Space estimates submitted in a letter from Mr. C. C. Leverenz to Mr. C. S. Havens and Mr. V. L. Kretschmer, dated April 22, 1959. (This estimate was based on 9,000 student enrollment, but for this report it is assumed that the same estimate will apply to the 1963 and 1965 phases.)

b. Post Office estimate included in Physical Plant Department - Operations section estimate.

c. Bookstore estimate included in General Administration under business office.

d. Estimate based on discussion between C. C. Leverenz and J. V. Edsall on 6-3-59 and C. C. Leverenz and H. J. Miszkowicz on 6-4-59.

e. Added 2,000 sq. ft. to Phase I, II & Phase III as per comments made by Dean Brown in a letter to Dean Caveny dated 7-29-59.

TABLE 34 - ARMORY-AUDITORIUM SPACE ESTIMATE (NET SQ. FT.)
(1963-65-69)

Facility	Phase I 1963 6,000 Enrollment	Phase II 1965 12,000 Enrollment	Phase III 1969 20,000 Enrollment
Type A-1[a.]			
Dirt Floor	--	--	42,000[c,d.]
Type A-2[b.]			
Wood Floor	--	--	7,000[c.]
Total Armory-Auditorium	--	--	49,000[c.]

Footnotes:

a. Type A-1 - Indoor teaching stations including large gymnasium areas with relatively high ceilings.
Uses: Basketball, badminton, gymnastics, apparatus, volleyball, etc.

b. Type A-2 - Indoor teaching stations in which the ceilings' height is not a significant factor.
Uses: Combatives, correctives, dancing, weight lifting, etc.

c. Reference: Draft of "Preliminary Recommendations for Space Requirements for Physical Education, Athletics and Recreation" CUD. Dated 3-30-59 and prepared by the Buildings and Fields Committee.

d. Includes 1 - 14,000 sq. ft. wood floor in center.

APPENDIX - K

LIST OF COURSES

FOR THE

ASSUMED EDUCATIONAL PROGRAM

Table 40

FTE STUDENTS INCLUDED IN
ASSUMED EDUCATIONAL PROGRAM
DISTRIBUTED BY CURRICULA

CURRICULA	STUDENT CREDIT HOURS	F.T.E. STUDENTS
A. College of Liberal Arts and Sciences		
1. Biology		
a) Bacteriology	505	34
b) Botany	2205	147
c) Entomology	108	7
d) Physiology	1772	118
e) Zoology	3988	266
f) DGS	2160	144
Total Biology	(10,738)	(176)
2. Chemistry		
a) Chemistry	8486	566
b) DGS	528	35
Total Chemistry	(9,014)	(601)
3. Economics	(6,579)	(439)
4. English		
a) English Literature	4943	330
b) American Literature	2025	135
c) Rhetoric	12792	853
d) Rhetoric (Bus. Engl.)	1337	89
e) Humanities	360	24
f) Journalism		
(1) General	349	23
(2) Advertising	54	4
(3) Radio-T.V.	28	2
g) DGS	788	53
Total English	(22,676)	(1,513)
5. French	(4,115)	(275)
6. Geography	(1,883)	(126)
7. Geology		
a) Geology	1878	125
b) DGS	528	35
Total Geology	(2,406)	(160)

CURRICULA (CONT.)	STUDENT CREDIT HOURS	F.T.E. STUDENTS
8. German	(2,945)	(196)
9. History		
a) History	5635	375
b) DGS	780	52
Total History	(6,415)	(427)
10. Home Economics	(2,921)	(195)
11. Mathematics	(14,779)	(985)
12. Philosophy	(2,624)	(175)
13. Psychology		
a) Psychology	5637	376
b) DGS	188	13
Total Psychology	(5,825)	(389)
14. Political Science	(3,016)	(201)
15. Sociology & Anthropology		
a) Sociology	3526	235
b) Anthropology	387	26
c) Social Science	48	3
Total Soc. & Anthro.	(3,961)	(264)
16. Spanish		
a) Spanish	3091	206
b) Italian	252	17
c) Portuguese	76	5
Total Spanish	(3,419)	(228)
17. Speech	(3,999)	(267)
18. Russian	(499)	(33)
19. Classics		
a) Classics	104	7
b) Greek	56	4
c) Latin	154	10
Total Classics	(314)	(21)

CURRICULA (CONT.)	STUDENT CREDIT HOURS	F.T.E. STUDENTS
20. Education		
a) Elementary & General	4563	304
b) Educational Practice	1164	78
Total Education	(5,727)	(382)
21. Library Science	(589)	(39)
TOTAL LAS	114,444	7,632
B. College of Commerce		
22. Accountancy	(5,237)	(349)
23. Finance	(2,070)	(138)
24. Marketing	(1,986)	(132)
25. Management		
a) Management	1992	133
b) Business Administration	75	5
c) Business Law	1179	79
d) Business Education	191	13
Total Mgmt.	(3,437)	(230)
TOTAL COMMERCE	12,730	849
C. College of Engineering		
26. Chemical Engineering	(535)	(36)
27. Civil Engineering		
a) Civil	3170	211
b) TAM (except vibrations & Fluid Flow)	3063	204
Total Civil Engr.	(6,233)	(415)
28. Electrical Engr.	(8,368)	(558)
29. Mechanical Engr.		
a) M.E.	5473	365
b) I.E.	739	49
c) General Engr. 101, 102,106,107, 108,205,212	3231	215
d) TAM (Vibrations & Fluid Flow)	259	17
Total Mech. Engr.	(9,702)	(646)

CURRICULA (CONT.)	STUDENT CREDIT HOURS	F.T.E. STUDENTS
30. Physics		
a) Physics	5947	397
b) Astronomy	348	23
c) DGS	528	35
Total Physics	(6,823)	(455)
TOTAL ENGINEERING	31,661	2110
D. College of Creative Arts		
31. Architecture	(5,073)	(338)
32. Art & Music		
a) Art	2962	198
b) Music		
1. Theory	909	61
2. Ensemble	52	4
3. Band	63	4
Total Art & Music	(3,986)	(267)
TOTAL CREATIVE ARTS	9,059	605
E. College of Physical Education		
33. P.E.M.		
a) P.E.M.	4569	305
b) Health Education	383	26
c) Safety Education	217	15
Total P.E.M.	(5,169)	(346)
34. Recreation	(745)	(50)
35. P.E.W.		
a) P.E.W.	2869	191
b) Dance	224	15
Total P.E.W.	(3,093)	(206)
TOTAL P.E.	9,007	602

CURRICULA (CONT.)	STUDENT CREDIT HOURS	F.T.E. STUDENTS
F. R. O. T. C.		
36. Military Sciences		
a) Freshman & Sophomore Registrations (Reduced to 25%)	1212	81
b) Junior & Senior Registrations (Reduced to 8%)	972	65
Total Military Science	(2,184)	(146)
TOTAL R. O. T. C.	2,184	146
SUMMARY		
College of L. A. S.	114,444	7,632
College of Commerce	12,730	849
College of Engineering	31,661	2,110
College of Creative Arts	9,059	605
College of P. E.	9,007	602
R. O. T. C.	2,184	146
TOTAL UNIVERSITY	179,085	11,944

TABLE 36 - F.T.E. STUDENTS EXCLUDED FORM A.E.P. DISTRIBUTED BY CURRICULUM

A.	Curriculum Curriculum Omitted	1st Listing F.T.E.	2nd Listing F.T.E.	Total 1st & 2nd Listing F.T.E.	Course Numbers
1.	D.G.S.	4.9	1.6	6.5	151
2.	Aeronautical Eng.	0.6	---	0.6	211,220,306
3.	Ceramic Eng.	0.4	---	0.4	101,221
4.	Mining Eng.	1.2	---	1.2	151,351,371
5.	Agricultural Eng.	0.4	---	0.4	111,146
6.	Agriculture	0.2	---	0.2	216
7.	Agronomy	0.2	---	0.2	121
8.	Animal Science	1.4	---	1.4	102,103,104
9.	Dairy Science	0.2	---	0.2	100
10.	Food Technology	0.6	---	0.6	201,391
11.	Forestry	0.2	---	0.2	101
12.	Horticulture	3.6	0.4	4.0	121,233
13.	City Planning	17.0	---	17.0	372
14.	Landscape Arch.	1.0	---	1.0	111,214,251
15.	Music (applied only)	14.8	1.6	16.4	---
16.	Industrial Eng.	0.6	3.3	3.9	183
17.	Communications	0.2	---	0.2	301
18.	Aviation	5.6	---	5.6	101,102,103,104,206
19.	Labor Industrial Relations	0.2	---	0.2	347
20.	Hygiene	64.0	18.4	82.4	104,110,206,216
21.	Social Work	12.0	0.4	12.4	225,226,316,333
22.	Law	0.2	---	0.2	305
23.	Religion	43.0	9.2	52.2	---
24.	Agriculture Econ.	1.0	000	1.0	220,230,331
25.	Metalurgical Eng.	19.0	---	19.0	211,230,231,234
26.	General Eng.	---	50.0	50.0	111,112,140,216,220 292,304
	Original Partial & Total Curricula Excluded F.T.E.	(192.5)	(84.9)	(277.4)	

B.	Excluded Low Registration Courses - F.T.E. (5 Registr. & Below)	(67.0)	
C.	Excluded Art - Adver. Des (605) & Art - Indus. Des (609) F.T.E.	(346.0)	
D.	Excluded Registrations of Courses Having Zero Credit (804)		G.E. 100, C.E. 299, 335; Band 201, 203; Rec. 208, 209
	Total F.T.E. Excluded	690.4	

TABLE 37 LIST OF COURSE NUMBERS & REGISTRATIONS
BY CURRICULUM INCLUDED IN ASSUMED
EDUCATIONAL PROGRAM

COLLEGE OF LIBERAL ARTS & SCIENCES

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
1. Biology					
a) Bacteriology	104	60	5	300	
	300	14	5	70	
	306	10	5	50	
	308	6	5	30	
	326	11	5	55	
		(101)		(505)	34
b) Botany	100	507	4	2028	
	120	20	3	60	
	302	7	3	21	
	322	15	4	60	
	381	12	3	36	
		(561)		(2205)	147
c) Entomology	103	(27)	4	(108)	7
d) Physiology	103	278	4	1112	
	104	132	5	660	
		(410)		(1772)	118
e) Zoology	101	244	5	1220	
	104	353	4	1412	
	107	42	3	126	
	132	76	5	380	
	304	14	5	70	
	318	12	5	60	
	321	17	5	85	
	333	81	5	405	
	342	9	3	27	
	345	17	4	68	
	361	7	5	35	
	363	20	5	100	
		(892)		(3988)	266
f) DGS	131	(540)	4	(2160)	144
TOTAL BIOLOGY		(2531)		(10738)	(716)
2. Chemistry					
a) Chemistry	101	144	5	720	
	102	625	3	1875	
	103	115	4	460	
	105	83	5	415	
	107	148	5	740	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
2. Chemistry	109	228	5	1140	
a) Chemistry	110	24	5	120	
(cont.)	111	62	5	310	
	122	96	5	480	
	124	66	5	330	
	134	39	3	117	
	133	76	5	380	
	234	38	5	190	
	290	19	Avg.4	76	
	291	7	1	7	
	292	32	1	32	
	294	8	1	88	
	315	17	3	51	
	326	7	3	21	
	327	21	3	63	
	336	38	3	114	
	337	39	2	78	
	338	9	3	27	
	340	22	3	66	
	341	22	1	22	
	342	66	3	198	
	343	21	1	21	
	344	24	3	72	
	345	14	1	14	
	348	13	3	39	
	350	13	3	39	
	354	8	5	40	
	355	13	3	39	
	394	42	2	84	
	395	42	2	84	
	397	7	2	14	
		(2248)		(8486)	566
b) DGS (1/3 of total 396)	141	(132)	4	(528)	35
TOTAL CHEMISTRY		(2380)		(9014)	(601)
3. Economics	102	372	3	1116	
	103	129	3	387	
	108	523	3	1569	
	109	39	3	117	
	136	403	3	1209	
	170	180	3	540	
	171	6	3	18	
	210	162	3	486	
	213	46	3	138	
	214	62	3	186	
	218	16	3	48	
	228	10	3	30	
	238	9	3	27	
	240	44	3	132	
	246	25	3	75	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
3. Economics (cont.)					
	271	18	3	54	
	288	16	3	48	
	300	42	3	126	
	301	16	3	48	
	304	3	3	9	
	326	7	3	21	
	328	9	3	29	
	336	8	3	24	
	342	15	3	45	
	372	8	3	24	
	374	8	3	24	
	384	9	3	27	
	385	8	3	24	
TOTAL ECONOMICS		(2193)		(6579)	(439)
4. English					
a) English Lit.	101	200	3	600	
	102	250	3	750	
	103	451	3	1353	
	121	96	3	288	
	122	40	3	120	
	123	37	3	111	
	131	152	3	456	
	201	34	3	102	
	215	7	2	14	
	231	37	3	111	
	235	14	3	42	
	245	25	3	75	
	246	35	3	105	
	252	39	3	117	
	257	46	3	138	
	258	8	3	24	
	281	28	3	84	
	297	19	3	57	
	311	13	3	39	
	313	5	3	15	
	345	12	3	36	
	346	12	3	36	
	361	13	3	39	
	363	41	3	123	
	382	24	3	72	
	383	12	3	36	
		(1650)		(4943)	330
b) Amer. Lit.	113	247	3	741	
	114	261	3	783	
	255	67	3	201	
	256	37	3	111	
	272	9	3	27	
	286	36	3	108	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
4. English					
b) Amer. Lit.(Cont)					
	357	13	3	39	
	376	5	3	15	
		(675)		(2025)	135
English					
c) Rhetoric	100	869	3	2607	
	101	2003	3	6009	
	102	645	3	1935	
	109	26	6	156	
	110	42	3	126	
	111	32	6	192	
	114	42	3	126	
	115	28	3	84	
	133	57	3	171	
	143	38	3	114	
	144	35	3	105	
	200	312	3	936	
	201	10	3	30	
	205	13	3	39	
	246	46	3	138	
	255	8	3	24	
		(4206)		(12792)	853
d) Rhetoric (Bus. English)	151	359	3	1077	
	272	130	2	260	
		(489)		(1337)	89
e) Humanities	151	45	4	180	
	211	39	4	156	
	301	8	3	24	
		(92)		(360)	24
f) Journalism					
1) General	101	19	2	38	
	114	5	3	15	
	204	12	2	24	
	211	11	3	33	
	215	44	2	88	
	217	20	3	60	
	308	15	3	45	
	309	23	2	46	
		(149)		(349)	23
2) Advertising	281	(18)	3	(54)	4
e) Radio & T.V.	261	(14)	2	(28)	2

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
4. English					
g) DGS	111	126	4	504	
	112	12	4	48	
	161	59	4	236	
		(197)		(788)	53
TOTAL ENGLISH		(7490)		(22676)	(1513)
5. French	101	444	4	1776	
	102	135	4	540	
	103	250	4	1000	
	104	86	4	344	
	113	28	1	28	
	201	41	3	123	
	202	7	3	21	
	211	53	2	106	
	212	14	2	28	
	213	27	2	54	
	215	17	2	34	
	309	10	3	30	
	317	5	2	10	
	331	7	3	21	
TOTAL FRENCH		(1124)		(4115)	(275)
6. Geography	101	187	5	935	
	104	123	3	369	
	105	89	3	267	
	111	53	3	159	
	114	6	3	18	
	221	15	3	45	
	231	6	3	18	
	355	6	3	18	
	375	8	3	24	
	386	10	3	30	
TOTAL GEOGRAPHY		(503)		(1883)	(126)
7. Geology					
a) Geology	101	231	4	924	
	102	54	4	216	
	131	38	4	152	
	150	103	3	309	
	301	27	4	108	
	311	7	4	28	
	320	27	4	108	
	335	6	4	24	
	351	3	3	9	
		(496)		(1878)	125
b) DGS (1/3 of Total 369)	141	(132)	4	(528)	35
TOTAL GEOLOGY		(628)		(2406)	(160)

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
8. German	101	339	4	1356	
	102	111	4	444	
	103	168	4	672	
	104	59	4	236	
	113	14	2	28	
	210	16	3	48	
	211	22	3	66	
	260	9	3	27	
	301	11	3	33	
	303	7	3	21	
	360	7	2	14	
TOTAL GERMAN		(763)		(2945)	(196)
9. History					
a) History	101	100	3	300	
	111	385	4	1540	
	131	143	4	572	
	151	130	3	390	
	152	355	3	1065	
	161	61	4	244	
	181	37	3	111	
	209	6	2	12	
	215	16	2	32	
	217	9	2	18	
	219	42	3	126	
	291	30	3	90	
	293	5	3	15	
	295	5	3	15	
	301	16	3	48	
	303	15	3	45	
	305	16	3	48	
	309	21	3	63	
	311	16	3	48	
	313	24	3	72	
	323	19	3	57	
	327	29	3	87	
	333	18	3	54	
	339	9	3	27	
	345	27	3	81	
	352	6	3	18	
	357	8	3	24	
	359	21	3	63	
	361	21	3	63	
	365	14	2	28	
	369	14	3	42	
	373	52	3	156	
	375	10	3	30	
	383	17	3	51	
		(1697)		(5635)	375
b) DGS	121	(195)	4	(780)	52
TOTAL HISTORY		(1892)		(6415)	(427)

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
10. Home Economics	100	148	1	148	
	105	52	4	208	
	120	38	2	76	
	125	28	3	84	
	130	9	2	18	
	131	27	3	81	
	132	62	3	186	
	133	17	2	34	
	160	67	4	268	
	161	23	3	69	
	162	20	3	60	
	171	95	2	190	
	182	64	2	128	
	183	107	2	214	
	184	33	2	66	
	185	23	2	46	
	186	39	2	78	
	201	49	3	147	
	202	19	2	38	
	210	45	3	135	
	220	19	3	57	
	232	24	3	72	
	240	5	3	15	
	262	7	3	21	
	271	10	2	20	
	272	26	3	78	
	273	12	3	36	
	277	13	3	39	
	281	16	2	32	
	285	30	2	60	
	286	16	3	48	
	305	15	3	45	
	322	5	2	10	
	330	15	3	45	
	345	8	3	24	
	375	9	3	27	
	380	6	3	18	
TOTAL HOME ECONOMICS		(1201)		(2921)	(195)
11. Mathematics	102	24	3	72	
	104	29	3	87	
	111	385	5	1925	
	112	603	3	1809	
	114	611	2	1222	
	117	19	5	95	
	122	109	4	436	
	123	538	5	2690	
	132	226	5	1130	
	133	158	3	474	
	137	23	3	69	
	142	160	3	480	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
11. Mathematics (Cont.)	143	246	5	1230	
	147	22	3	66	
	161	20	3	60	
	202	81	5	405	
	222	9	3	27	
	263	20	3	60	
	301	27	3	81	
	311	42	3	126	
	315	10	3	30	
	317	45	3	135	
	327	8	3	24	
	341	8	3	24	
	343	204	3	612	
	345	332	3	996	
	346	40	3	120	
	347	29	3	87	
	348	6	3	18	
	358	7	3	21	
	363	23	3	69	
	381	6	3	18	
	385	27	3	81	
TOTAL MATHEMATICS		(4097)		(14779)	(985)
12. Philosophy	101	205	3	615	
	102	199	3	597	
	103	20	4	80	
	105	88	2	176	
	110	144	3	432	
	303	84	4	336	
	317	38	3	114	
	318	8	2	16	
	321	14	3	42	
	323	21	3	63	
	328	17	3	51	
	333	10	3	30	
	337	10	3	30	
	361	14	3	42	
TOTAL PHILOSOPHY		(872)		(2624)	(175)
13. Psychology					
a) Psychology	100	836	4	3344	
	101	105	4	420	
	135	47	3	141	
	216	84	3	252	
	217	12	3	36	
	220	19	3	57	
	245	53	3	159	
	250	124	3	372	
	255	30	3	90	
	256	25	3	75	
	290	31	3	93	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
13. Psychology					
a) Psychology (Cont.)	311	17	3	51	
	326	25	3	75	
	330	28	4	112	
	338	103	3	309	
	345	6	3	18	
	357	11	3	33	
		(1556)		(5637)	376
b) D.G.S.	171	(47)	4	(188)	13
TOTAL PSYCHOLOGY		(1603)		(5825)	(389)
14. Political Science					
	110	27	2	54	
	150	493	3	1479	
	151	47	3	141	
	191	73	4	292	
	305	68	3	204	
	310	7	3	21	
	321	12	3	36	
	326	42	3	126	
	331	16	3	48	
	342	11	3	33	
	351	49	3	147	
	361	23	3	69	
	371	18	3	54	
	381	27	3	81	
	384	31	3	93	
	385	24	3	72	
	393	22	3	66	
TOTAL POLITICAL SCIENCE		(990)		(3016)	(201)
15. Sociology & Anthropology					
a) Sociology	100	200	3	600	
	104	403	4	1612	
	110	8	3	24	
	131	22	3	66	
	212	20	3	60	
	220	59	3	177	
	221	12	3	36	
	222	5	3	15	
	223	18	3	54	
	225	21	3	63	
	229	30	3	90	
	243	23	3	69	
	276	89	3	267	
	318	12	3	36	
	323	8	3	24	
	331	50	3	150	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
15. Sociology & Anthropology					
a) Sociology (Cont.)	332	39	3	117	
	340	5	3	15	
	344	9	3	27	
	385	8	3	24	
		(1041)		(3526)	235
b) Anthropology	102	73	3	219	
	103	37	3	111	
	252	8	3	24	
	367	6	3	18	
	380	5	3	15	
		(129)		(387)	26
c) Social Sciences	101	(16)	3	(48)	3
TOTAL SOC. & ANTHROPOLOGY		(1186)		(3961)	(264)
16. Spanish, Italian, & Portuguese					
a) Spanish	101	293	4	1172	
	102	85	4	340	
	103	228	4	912	
	104	86	4	344	
	113	11	2	22	
	201	23	3	69	
	202	7	3	21	
	211	35	3	105	
	212	13	3	39	
	213	7	3	21	
	231	6	3	18	
	303	6	3	18	
	331	5	2	10	
		(805)		(3091)	206
b) Italian	101	48	4	192	
	103	15	4	60	
		(63)		(252)	17
c) Portuguese	101	13	4	52	
	103	6	4	24	
		(19)		(76)	5
TOTAL SPANISH, ITAL., & PORTUGUESE		(887)		(3419)	(228)
17. Speech	101	676	3	2028	
	105	85	2	170	
	107	30	2	60	
	111	37	2	74	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
17. Speech (Cont)	113	26	3	78	
	117	26	3	78	
	141	321	3	963	
	151	37	3	111	
	157	27	4	108	
	161	32	3	96	
	208	17	3	51	
	221	10	3	30	
	264	10	2	20	
	301	19	3	57	
	342	7	3	21	
	361	8	3	24	
	375	10	3	30	
TOTAL SPEECH		(1378)		(3999)	(267)
18. Russian	101	106	4	424	
	103	15	4	60	
	321	5	3	15	
TOTAL RUSSIAN		(126)		(499)	(33)
19. Classics					
a) Classics	101	40	2	80	
	301	8	3	24	
		(48)		(104)	7
b) Greek	101	6	4	24	
	150	16	2	32	
		(22)		(56)	4
c) Latin	101	14	4	56	
	103	16	4	64	
	104	4	4	16	
	201	6	3	18	
		(40)		(154)	10
TOTAL CLASSICS		(110)		(314)	(21)
20. Education					
a) Elem. Educ.	101	416	2	832	
	117	54	3	162	
	201	339	2	678	
	211	137	3	411	
	219	19	3	57	
	230	105	2	210	
	231	67	3	201	
	233	96	2	192	
	235	18	3	54	
	236	107	3	321	
	237	55	3	165	
	240	181	2	362	
	241	120	3	360	
	325	27	2	54	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
20. Education					
a) Elem. Educ. (Cont.)	335	27	3	81	
	336	79	3	237	
	337	62	3	186	
		(1909)		(4563)	304
b) Educ. Practice	232	79	5	395	
	242	111	5	555	
	250	107	2	214	
		(297)		(1164)	78
TOTAL EDUCATION		(2206)		(5727)	(382)
21. Library Science	195	94	2	188	
	201	9	3	27	
	204	6	3	18	
	303	93	3	279	
	304	19	3	57	
	309	10	2	20	
TOTAL LIBRARY SCIENCE		(231)		(589)	(39)
TOTAL LAS				114,444	7,632
22. Accountancy	101	610	3	1830	
	105	186	3	558	
	106	144	3	432	
	108	233	3	699	
	201	84	3	252	
	208	5	5	25	
	274	103	3	309	
	308	126	3	378	
	324	29	2	58	
	341	37	2	74	
	362	27	3	81	
	366	62	2	124	
	371	37	3	111	
	372	27	3	81	
	377	63	3	189	
	378	12	3	36	
TOTAL ACCOUNTANCY		(1785)		(5237)	(349)
23. Finance	250	270	3	810	
	254	177	3	531	
	255	12	3	36	
	257	9	3	27	
	258	19	3	57	
	259	44	3	132	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
23. Finance (Cont.)	260	88	3	264	
	262	23	3	69	
	264	25	3	75	
	266	11	3	33	
	360	6	3	18	
	366	6	3	18	
TOTAL FINANCE		(690)		(2070)	(138)
24. Marketing	101	219	3	657	
	211	56	3	168	
	212	20	2	40	
	271	85	2	170	
	272	9	3	27	
	281	103	3	309	
	282	7	3	21	
	305	53	3	159	
	315	17	2	34	
	321	16	3	48	
	345	24	3	72	
	351	28	3	84	
	372	21	2	42	
	373	35	2	70	
	382	7	4	28	
	383	9	2	18	
	387	13	3	39	
TOTAL MARKETING		(722)		(1986)	(132)
25. Management					
a) Management	101	257	3	771	
	204	24	3	72	
	205	14	3	42	
	221	10	3	30	
	245	54	3	162	
	246	12	3	36	
	248	112	3	336	
	301	58	3	174	
	311	32	3	96	
	312	75	3	225	
	362	16	3	48	
		(664)		(1992)	133
b) Bus. Admin.	373	(25)	3	(75)	5
c) Bus. Law	100	105	3	315	
	201	132	3	396	
	202	92	3	276	
	261	16	3	48	
	301	39	3	117	
	302	9	3	27	
		(393)		(1179)	79

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
25. Management					
d) Bus. Ed.	101	13	2	26	
	102	16	2	32	
	111	13	3	39	
	112	13	3	39	
	203	8	2	16	
	213	13	3	39	
		(76)		(191)	13
TOTAL MANAGEMENT		(1158)		(3437)	(230)
TOTAL COMMERCE				12,730	849
26. Chemical Engr.	261	27	3	81	
	266	47	1	47	
	267	38	2	76	
	371	16	4	64	
	373	27	4	108	
	374	24	3	72	
	379	15	2	30	
	381	15	3	45	
	382	6	2	12	
TOTAL CHEM. ENGR.		(215)		(535)	36
27. Civil Engr.					
a) Civil Engr.	105	152	2	304	
	160	132	3	396	
	220	50	3	150	
	222	8	4	32	
	230	84	2	168	
	231	12	2	24	
	235	57	2	114	
	237	30	2	60	
	238	31	3	93	
	239	11	4	44	
	240	18	4	72	
	241	10	3	30	
	248	37	4	148	
	250	10	3	30	
	252	5	3	15	
	261	95	4	380	
	262	50	3	150	
	263	45	2	90	
	264	50	5	250	
	265	14	4	56	
	290	48	2	96	
	293	9	3	27	
	295	107	1	107	
	306	7	3	21	
	323	11	4	44	
	361	16	3	48	
	362	14	3	42	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
27. Civil Engr.					
a) Civil Engr. (Cont.)	370	45	3	135	
	371	22	2	44	
		(1180)		(3170)	211
b) T.A.M.	150	184	2	368	
	154	146	4	584	
	156	22	5	110	
	171	36	3	108	
	172	56	3	168	
	211	184	3	552	
	221	299	3	897	
	223	243	1	243	
	321	11	3	33	
		(1181)		(3063)	204
TOTAL CIVIL ENGR.		(2361)		(6233)	(415)
28. Elec. Engr.	114	53	3	159	
	126	119	4	476	
	208	106	3	318	
	209	20	1	20	
	210	25	4	100	
	211	115	1	115	
	220	138	3	414	
	229	181	3	543	
	268	26	2	52	
	271	12	2	24	
	288	100	3	300	
	292	155	1	155	
	320	210	4	840	
	321	206	1	206	
	322	112	4	448	
	323	106	1	106	
	324	9	3	27	
	330	118	3	354	
	331	118	1	118	
	332	71	3	213	
	333	70	1	70	
	334	11	3	33	
	335	11	1	11	
	336	19	4	76	
	337	19	2	38	
	338	11	3	33	
	339	11	1	11	
	341	116	4	464	
	347	24	4	96	
	349	121	5	605	
	351	128	4	512	
	353	122	4	488	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
28. Elec. Engr. (Cont.)	355	43	4	172	
	357	8	3	24	
	377	12	3	36	
	378	22	3	66	
	379	8	3	24	
	381	28	4	112	
	382	36	4	144	
	383	28	3	84	
	384	19	3	57	
	386	38	4	52	
	388	14	3	42	
	389	5	3	15	
	391	5	3	15	
TOTAL ELEC. ENGR.		(2929)		(8368)	558
29. Mechanical Engr. a) Mechanical Engr.	182	7	3	21	
	183	151	3	453	
	184	74	3	222	
	201	59	3	177	
	202	180	3	540	
	203	8	3	24	
	205	124	3	372	
	206	70	3	210	
	209	18	3	54	
	212	82	5	410	
	214	19	3	57	
	221	110	5	550	
	222	6	3	18	
	224	80	3	240	
	234	107	3	321	
	252	41	4	164	
	256	42	3	126	
	257	17	3	51	
	259	21	3	63	
	260	52	3	156	
	263	84	5	420	
	264	83	3	249	
	271	108	3	324	
	273	23	3	69	
	284	10	3	30	
	291	80	1	80	
	297	7	3	21	
	305	9	3	27	
	322	8	3	24	
		(1680)		(5473)	363

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
29. Mech. Eng. (Cont.)					
b) Ind. Eng.	230	18	3	54	
	232	14	3	42	
	233	5	3	15	
	237	103	3	309	
	329	9	3	27	
	282	36	3	108	
	286	33	3	99	
	291	10	1	10	
	357	18	3	54	
	358	7	3	21	
		(253)		(739)	49
c) Gen. Engr.	101	685	3	2055	
	102	138	3	414	
	106	104	3	312	
	107	155	2	310	
	108	25	2	50	
	205	15	3	45	
	212	45	1	45	
		(1167)		(3231)	215
d) T.A.M. (Vibrations & Fluid Flow)	232	64	3	192	
	234	67	1	67	
		(131)		(259)	17
TOTAL MECH. ENGINEERING		(3231)		(9702)	(646)
30. Physics					
a) Physics	101	237	5	1185	
	106	346	4	1384	
	107	303	4	1212	
	108	259	4	1036	
	201	27	3	81	
	281	6	3	18	
	321	68	4	272	
	322	11	4	44	
	341	56	4	224	
	342	29	4	116	
	344	10	4	40	
	360	25	3	75	
	371	25	4	100	
	381	27	3	81	
	383	13	3	39	
	385	10	4	40	
		(1452)		(5947)	397

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
30. Physics (Cont.)					
b) Astronomy	201	92	3	276	
	202	24	3	72	
		(116)		(348)	23
c) D.G.S. (1/3 of Total 396)	141	(132)	4	(528)	35
TOTAL PHYSICS		(1700)		(6823)	(455)
TOTAL ENGINEERING				31,661	2,110
31. Architecture	101	92	3	276	
	113	42	2	84	
	131	73	3	219	
	132	33	3	99	
	133	72	3	216	
	134	63	3	189	
	141	78	2	156	
	142	40	2	80	
	143	78	2	156	
	144	54	2	108	
	171	51	2	102	
	214	86	3	258	
	215	83	3	249	
	216	84	3	252	
	235	81	5	405	
	236	57	5	285	
	244	65	2	130	
	245	82	3	246	
	246	62	3	186	
	247	61	3	183	
	256	44	2	88	
	257	54	3	162	
	265	86	2	172	
	283	42	2	84	
	337	40	7	280	
	338	27	7	189	
	347	28	5	140	
	348	11	5	55	
	358	8	3	24	
TOTAL ARCHITECTURE		(1677)		(5073)	338
32. Art & Music					
a) Art	101	5	2	10	
	111	60	3	180	
	115	108	3	324	
	117	41	3	121	
	118	10	2	20	
	119	45	2	94	
	120	7	3	21	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
32. Art & Music (Cont.)					
a) Art	125	26	2	52	
	126	7	2	14	
	127	17	3	51	
	129	18	2	36	
	130	16	2	32	
	131	27	2	54	
	132	8	2	16	
	141	27	2	54	
	150	29	2	58	
	170	49	2	98	
	171	21	2	42	
	173	23	2	46	
	175	12	2	24	
	181	140	2	280	
	182	33	2	66	
	183	81	2	162	
	184	40	2	80	
	185	133	2	266	
	186	17	2	34	
	203	87	2	174	
	225	7	2	14	
	231	7	3	21	
	233	13	3	39	
	235	9	2	18	
	243	6	2	12	
	245	13	3	39	
	247	14	2	28	
	281	79	2	158	
	282	70	2	140	
	317	14	3	42	
	319	14	3	42	
TOTAL ART		(1333)		(2962)	198
b) Music					
1) Theory	100	24	2	48	
	101	5	4	20	
	113	40	2	80	
	115	13	2	26	
	130	58	3	174	
	140	24	2	48	
	240	143	3	429	
	241	28	3	84	
		(335)		(909)	61
2) Music Ensemble					
	260	14	0.5	7	
	261	19	0.5	10	
	262	24	0.5	12	
	263	29	0.5	14.5	
	264	17	0.5	8.5	
		(103)		(52)	4

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
3) Bands	101	66	0.5	33	
	103	59	0.5	30	
		(125)		(63)	4
TOTAL MUSIC		(563)		(1024)	(69)
TOTAL ART & MUSIC		(1898)		(3986)	(267)
TOTAL CREATIVE ARTS				9059	605
33. P.E.M.					
a) P.E.M.	101	54	1	54	
	102	18	1	18	
	103	29	1	29	
	104	9	1	9	
	105	15	1	15	
	106	146	1	146	
	107	110	1	110	
	108	204	1	204	
	109	91	1	91	
	110	52	1	52	
	112	62	1	62	
	114	62	1	62	
	115	42	1	42	
	118	182	1	182	
	119	131	1	131	
	120	111	1	111	
	123	323	1	323	
	124	79	1	79	
	125	221	1	221	
	128	262	1	262	
	129	208	1	208	
	130	167	1	167	
	133	25	1	25	
	134	221	1	221	
	136	153	1	153	
	137	57	1	57	
	139	134	1	134	
	141	22	1	22	
	142	45	1	45	
	143	17	1	17	
	144	24	1	24	
	150	104	2	208	
	151	80	2	160	
	152	79	2	158	
	153	56	2	112	
	154	66	2	132	
	155	29	2	58	
	156	28	2	56	
	204	24	3	72	
	205	33	3	99	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
33. P.E.M. (Cont.)					
a) P.E.M.	206	36	3	108	
	207	14	2	28	
	208	20	3	60	
	210	5	2	10	
	217	16	2	32	
		(3866)		(4569)	305
b) Health Ed.	281	110	2	220	
	282	44	3	132	
	287	5	2	10	
	288	7	3	21	
		(166)		(383)	26
c) Safety Ed.	280	45	3	135	
	284	24	3	72	
	294	5	2	10	
		(74)		(217)	15
TOTAL P.E.M.		(4106)		(5169)	(346)
34. Recreation	166	20	2	40	
	170	34	2	68	
	171	35	2	70	
	174	76	3	228	
	176	63	3	189	
	270	18	2	36	
	271	17	3	51	
	274	12	2	24	
	375	13	3	39	
TOTAL RECREATION		(288)		(745)	50
35. P.E.W.					
a) P.E.W.	101	46	1	46	
	102	29	1	29	
	103	746	1	746	
	106	19	1	19	
	110	98	1	98	
	111	231	1	231	
	112	16	1	16	
	114	7	1	7	
	115	18	1	18	
	120	70	1	70	
	122	74	1	74	
	123	157	1	157	
	124	69	1	69	
	125	40	1	40	
	130	103	1	103	
	131	26	1	26	
	132	114	1	114	
	133	27	1	27	

SUBJECT	COURSE NUMBER	TOTAL REGISTRATIONS	UNIT CREDIT HOURS	TOTAL STUDENT CREDIT HOURS	FTE STUDENTS
35. P.E.W.					
a) P.E.W. (Cont)	134	18	1	18	
	135	26	1	26	
	136	73	1	73	
	137	55	1	55	
	142	65	1	65	
	143	19	1	19	
	150	59	2	118	
	151	53	2	106	
	153	33	2	66	
	201	11	1	11	
	202	6	1	6	
	204	14	3	42	
	205	12	3	36	
	206	26	3	78	
	213	22	4	88	
	220	86	2	172	
		(2468)		(2869)	191
b) Dance	160	5	2	10	
	162	18	1	18	
	163	9	2	18	
	235	73	2	146	
	240	5	1	5	
	243	6	2	12	
	245	5	3	15	
		(121)		(224)	15
TOTAL P.E.W.		(2589)		(3093)	(206)
TOTAL COLLEGE P.E.				9007	602
36. ROTC	101	725(a)	1	725	
	103	487(a)	1	487	
	205	184(b)	3	552	
	247	140(b)	3	420	
TOTAL ROTC		(1536)		(2184)	146

(a) Based on E. F. Potthoff's estimate for Men Enrollments in 1965 reduced to 25%.

(b) Based on E. F. Potthoff's estimate for Men Enrollments in 1965 reduced to 8%.

TOTAL UNIVERSITY	179,085	11,944

APPENDIX - L

DEFINITIONS OF TERMS

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Definition of Terms

1. TEACHING LOAD TERMS
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   b. Registrations
   c. Full-Time-Equivalent Students (FTE Student)
   d. Full-Time-Equivalent Teaching Staff Member
   e. Curricula
   f. Assumed Educational Program (A.E.P.)
   g. FTE Student - FTE Staff Ratio (Planning Standard Teaching Loads)
   h. Course Utilization Curves (Trend Curves)
   i. Course Projection Factor
   j. Section
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   l. Optimum Section Size
   m. Period
   n. Credit Hour (cr-hr)
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   q. Student-Contact-Hour (st-cnt-hr)
   r. Service Course

2. SPACE AND CAPACITY UNITS
   a. Gross Building Area, Sq. Ft.
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   c. Station Area or Size
   d. Total Room Capacity
   e. Optimum Room Capacity

3. ROOM USE FACTORS
   a. Schedule Week
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   e. Total Capacity Use
   f. Suggested Capacity Category

4. TYPES OF SPACE
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   b. Lecture Rooms
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   d. Office Space
   e. Auxiliary Rooms
   f. Conference Rooms
   g. Seminar Rooms
   h. Lounge-Study Rooms

1. TEACHING LOAD UNITS.

Several units of measure are used for evaluating teaching loads. They are as follows:

a. Enrollment. The University enrollment is made up of all of the full-time and part-time students registered in the University. A department enrollment is made of of all of such students who major in that department. Service departments in which degrees are not awarded do not have enrollments.

b. Registrations. Number of students registered or enrolled in a given course (actual head count as distinguished from FTE Students).

c. Full-Time-Equivalent Student. (FTE Student) A "composite" student who, if registered for a full schedule in a department, would cause the same teaching load as is caused by several students who register for only part of their schedules in that department. For example, if a full-time schedule is 15 hours, 60 credit hours of instruction distributed among several students would cause a teaching load equal to that of 60/15 = 4 FTE students. If the full-time schedule differs in the various colleges of a university, the same basis is used for all colleges because this is a measure of space requirements and not of graduation requirements. For example, a student spending an hour per week in a classroom requires the same classroom space regardless of the graduation requirements. The factor used, corresponding to the 15-hour unit above is determined by dividing the total number of student-credit-hours taught in the entire university for a given semester divided by the enrollment. It varies somewhat from year to year and from semester to semester, but this variation is not significant. Because of this variation, it is appropriate to use the nearest whole number rather than a fractional number. The total teaching load for the entire university measured in FTE students is of course, very nearly equal to the enrollment for a given semester. Possibly, a more accurate designation would be "Average Student."

d. Full-Time Equivalent Teaching Staff Member. A "composite" staff member who, if he devoted full time to teaching, would provide as much instruction as two or more part-time teaching staff members. For example, one half-time and two quarter time instructors would constitute one FTE teaching staff member. Similar designations are used for the research, administrative, extension staffs, etc. The total number of full-time and part-time staff members, in a given category, is referred to as head count.

e. Curricula. A prescribed regular course of study.

f. Assumed Educational Program. (A.E.P.). The curricula and courses which are assumed, for physical planning purposes, to be the instructional program for the proposed four year Chicago Undergraduate Division in 1965.

g. FTE Student-FTE Staff Ratio. Ratio between the number of FTE students and FTE teaching staff.

h. Course Utilization Curves (Trend Curves). Curves showing the Urbana-Champaign and Chicago Undergraduate Division FTE students in each curriculum expressed as a percentage of all undergraduate students at Urbana-Champaign and Chicago Undergraduate Division respectively.

i. Course Projection Factor (C.P.F.). For each department the course projection factor is the ratio of FTE Students predicted for that department in 1965 to the FTE Students registered in that department in 1958. The C.P.F. is thus a measure of the change in department teaching load between 1958 and 1965.

j. Section. A section is the group of students assembled for instruction in the same subject at the same time in the same room.

k. Section Size. The number of students registered in one section of a given course.

l. Optimum Section Size. The section size for a given course which is considered to be the most desirable when all factors involved are recognized.

m. Period. The unit of continuous time devoted to the instruction of a section. It is measured in hours although a 1-hour period includes the time spent in class and the interval between classes. These times are usually 50 minutes and 10 minutes respectively. A 2-hour period involves 110 minutes of total time, etc. Others sometimes use the term period as synonymous with hour as used in this report.

n. Credit Hour. (cr-hr). The measure of the credit toward graduation assigned to each course. This usually requires a 1-hour period of instruction per week for one semester for classroom instruction and a 2-hour or 3-hour period for laboratory instruction. It is also called a semester hour.

o. Student-Credit-Hour. (st-cr-hr). One credit hour of instruction for one student. It is sometimes called one instructional unit.

p. Contact Hour. (cnt-hr). A measure of the hours of contact per week between a section and an instructor. For classroom instruction, contact hours usually equal credit hours. If a 3-hour laboratory period per week is required for one hour of credit, the number of contact hours is three times the number of credit hours.

q. Student-Contact Hour. (st-cnt-hr). The product of the number of students in a section and the number of contact hours for that section.

r. Service Course. A course provided by one department for students majoring in another department.

2. SPACE AND CAPACITY UNITS.

a. Gross Building Area - Sq. Ft. The gross area of a building is the area included within the outside surfaces of the exterior walls excluding the areas of projection such pilasters and buttresses.

b. Assignable Area - Sq. Ft. (Net Sq. Ft.). The net area of a building available for assignment to a department for direct use such as offices, classrooms, laboratories, shops, auxiliary rooms, etc. It does not include such areas as mechanical equipment rooms, corridors, stair wells, rest rooms, etc.

c. Station Area or Size. The total facilities required to accommodate one person at a given time is called a station. A station area or size is the room area divided by the number of stations it provides. It is not the actual area occupied by one seat or work space because of the space occupied by aisles and other open areas. If individual stations are not provided, the station area is equal to the total assignable area of a room divided by the total number of students it will accommodate simultaneously.

d. Total Room Capacity. The total number of stations in a room.

e. Optimum Room Capacity. The optimum room capacity is equal to the optimum number of stations. It is taken as 80 percent of the total room capacity.

3. ROOM USE FACTORS.

a. Schedule Week. Portion of each week which is devoted to scheduled classes, expressed in hours.

b. Hourly Use. The number of hours per week during which scheduled sections are held in classrooms and laboratories.

c. Optimum Hourly Use. The total number of hours per week adopted as an optimum use for a classroom or for a laboratory.

d. Capacity Use While in Use. The ratio expressed in per cent, between the total station use, during the hours a room is in use, and the total possible station use during the same period.

e. Total Capacity Use. The ratio between use in station hours per week if all stations were in use and the actual station use.

f. Suggested Capacity Category. Standard classroom sizes into which the various course sections were grouped.

4. TYPES OF SPACE.

Many types of space are included in a building. The principal types referred to in this report are as follows:

a. Classrooms. Rooms equipped with individual seats or chairs and an instructor's table or desk.

b. Lecture Rooms. Except when otherwise noted, no distinction is made between classrooms and lecture rooms, a lecture room being considered as a large classroom.

c. Laboratories. Rooms provided with special types of tables, benches, or other equipment at which students work singly or in squads. Wet laboratories are those in which each station is provided with a water supply and drainage and often with other utilities. Dry laboratories are those with stations not provided with water supply and drainage.

Drafting or drawing rooms are equipped with tables or benches designed for this special use. They are included in the broad classification of laboratories. However, in many cases, distinctions are made between such rooms and laboratories.

d. Office Space. The space occupied in an office by the facilities provided for one person. Two or more staff members may use the same office and each would use one office space.

e. Auxiliary Rooms. Rooms in which the special facilities are located for the operation of teaching and research programs, such as instrument rooms, work shops, dark rooms, animal rooms, constant temperature rooms, as well as stock rooms and storage areas. Stations are not generally provided in these rooms for individual use by students or staff.

f. Conference Rooms. Those provided for unscheduled conferences of various types and equipped with chairs arranged around a table.

g. Seminar Rooms. Those provided for scheduled or unscheduled meetings involving an instructor and his students and equipped with chairs arranged around a table to facilitate general discussion.

h. Lounge-Study Rooms. Those rooms equipped with comfortable chairs, sofas and small tables for informal use by students and faculty. They may be equipped with serving facilities such as water service, sink, cupboards, electric plates and disposable dishes arranged behind doors which can be locked. Smoking is usually permitted in such rooms even if prohibited elsewhere.

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